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Farm Department.

Conducted by J. H. Brown, who lives on his farm at Climax, Mich., which is conducted as the Michigan Farmer Experiment Farm. All correspondence for this department should be sent to Climax, Mich.

THE EDITOR'S FARM NOTES.

CRIMSON CLOVER.

Our readers may remember that we sowed five acres of corn ground to this clover last August, after the last cultivation.

The seed was sown with a hand seeder and covered by means of a horse weeder. The last cultivation was the day following a good soaking rain. This put the surface in good condition, breaking up the crust and forming a dirt mulch.

The clover quickly germinated and soon covered the ground "as thick as a mat." One bushel of seed was sown on five acres.

When the young plants were about one-half inch in height they began to wilt from the drouth—no rain having fallen since the seed was sown. At the end of four weeks no rain had fallen, and the clover had nearly all disappeared.

SURVIVED THE WINTER.

After the fall rains set in we found a few small patches of clover had survived the drouth, and were just beginning to grow nicely when cold weather came on.

A day or two ago we were out in the field looking over these patches. We do not believe any of the plants were "winter-killed," and this crimson is now doing nicely. Had it not been for the severe fall drouth we surely would now have five acres of as nice clover as one could wish for.

Crimson clover is becoming better acclimated to this latitude, and good reports reach us from various portions of this Southern Peninsula. We shall sow more seed again this season, either on corn ground or somewhere else.

TIME TO SOW CRIMSON CLOVER.

Have any of our readers succeeded in securing a good catch when sown in early spring? It seems to us that late fall sowing is useless. Seed sown in July or the first of August, if no drouth appears, seems to make a good growth before winter sets in.

Our experience is limited, but we believe the time to sow is either during the months of March, April and May, or else in July and August.

RESULT AT MICHIGAN EXPERIMENT STATION.

A bulletin from the Department of Agriculture shows that at our Michigan station a plat of half an acre of crimson clover was sown with oats in the spring. After the oats were cut, the clover made a rapid growth, yielding 5,134 pounds when cut for green feed October 23 and November 12. Another similar plat sown without grain grew rapidly from the start, and when cut, June 24, yielded 1,870 pounds green feed, or 418 pounds of hay. "It

produced a second crop, on which sheep were pastured for about six weeks during August and September. After the sheep were removed, it made another small growth."

At the same station, in 1896, a one-tenth-acre plat each of crimson and red clover was sown the last day of every month, beginning in March. The yield of crimson clover on the whole was apparently somewhat greater than that of the red clover. "The March crop of crimson clover matured a crop of seed early in August, but the plants, instead of dying thereafter, as in previous years, continued to put forth blossoms until checked by the hard frosts of autumn. Late in October nearly all the plants on this plat died. The April plat did not seed so abundantly, but the plats which seeded freely died at the same time as those in the other plat.

The plats which produced little or no seed remained green and thrifty. The plats sown the last of May produced only now and then a blossom head and entered the winter with a thick mass of verdure about eight inches deep. The later-sown plats were of successively smaller growth as the season advanced. The plats sown after the 1st of August made so little growth that, judging from previous experiments, they are not likely to survive the winter."

RESULTS IN NEW JERSEY.

In general it appears that in New Jersey crimson clover seeded from August 4 to 18 gave the best results, but that in Michigan these dates were too late to permit the plants to make sufficient growth before winter.

It is evident that wherever crimson clover is grown it should be sown at such a time as will enable it to make a good stand and sufficient growth before it is checked by the frosts. Spring seeding in the climate of Michigan seems to give very satisfactory results. A good crop is secured in the same year and the clover is apparently left in good condition to withstand the ensuing winter.

The date of seeding alone, however, does not insure success. The latter depends also upon moisture and protection. Moisture is necessary for the sprouting of the seed and the subsequent growth of the plant. A light shower of rain is often sufficient to start the seed growing, but, if drouth follows, the young plants frequently die for want of moisture, as occurred in the New Jersey experiments on sandy soil.

It should be noted, also, that in the experiments cited better results were obtained where plants were protected by growing crops or by the rubbish left after harvesting, particularly in case of the drier sandy soils seeded in summer and early fall.

These results show very clearly that, unless serious drouths intervene, crimson clover may be relied upon fairly well, if sown during the periods we

have mentioned above. Surely crimson clover is becoming acclimated to our latitude.

CAPACITY OF ROUND SILOS.

A brother farmer wants to know how he can determine the required diameter of a silo to hold corn silage for feeding stock. If he knows how many tons he needs, the following table will help him out, as well as any other farmer who thinks of building a silo:

Depth in Feet.	15.	16.	17.	18.	19.	20.	21.	22.
15.	58.84	60.95	63.06	65.17	67.28	69.39	71.50	73.61
16.	62.90	65.01	67.12	69.23	71.34	73.45	75.56	77.67
17.	66.96	69.07	71.18	73.29	75.40	77.51	79.62	81.73
18.	71.02	73.13	75.24	77.35	79.46	81.57	83.68	85.79
19.	75.08	77.19	79.30	81.41	83.52	85.63	87.74	89.85
20.	79.14	81.25	83.36	85.47	87.58	89.69	91.80	93.91
21.	83.20	85.31	87.42	89.53	91.64	93.75	95.86	97.97
22.	87.26	89.37	91.48	93.59	95.70	97.81	99.92	102.03
23.	91.32	93.43	95.54	97.65	99.76	101.87	103.98	106.09
24.	95.38	97.49	99.60	101.71	103.82	105.93	108.04	110.15
25.	99.44	101.55	103.66	105.77	107.88	109.99	112.10	114.21
26.	103.50	105.61	107.72	109.83	111.94	114.05	116.16	118.27
27.	107.56	109.67	111.78	113.89	116.00	118.11	120.22	122.33
28.	111.62	113.73	115.84	117.95	120.06	122.17	124.28	126.39
29.	115.68	117.79	119.90	122.01	124.12	126.23	128.34	130.45
30.	119.74	121.85	123.96	126.07	128.18	130.29	132.40	134.51
31.	123.80	125.91	128.02	130.13	132.24	134.35	136.46	138.57
32.	127.86	130.00	132.11	134.22	136.33	138.44	140.55	142.66
33.	131.92	134.03	136.14	138.25	140.36	142.47	144.58	146.69
34.	135.98	138.09	140.20	142.31	144.42	146.53	148.64	150.75
35.	140.04	142.15	144.26	146.37	148.48	150.59	152.70	154.81
36.	144.10	146.21	148.32	150.43	152.54	154.65	156.76	158.87
37.	148.16	150.27	152.38	154.49	156.60	158.71	160.82	162.93
38.	152.22	154.33	156.44	158.55	160.66	162.77	164.88	166.99
39.	156.28	158.39	160.50	162.61	164.72	166.83	168.94	171.05
40.	160.34	162.45	164.56	166.67	168.78	170.89	173.00	175.11
41.	164.40	166.51	168.62	170.73	172.84	174.95	177.06	179.17
42.	168.46	170.57	172.68	174.79	176.90	179.01	181.12	183.23
43.	172.52	174.63	176.74	178.85	180.96	183.07	185.18	187.29
44.	176.58	178.69	180.80	182.91	185.02	187.13	189.24	191.35
45.	180.64	182.75	184.86	186.97	189.08	191.19	193.30	195.41
46.	184.70	186.81	188.92	191.03	193.14	195.25	197.36	199.47
47.	188.76	190.87	192.98	195.09	197.20	199.31	201.42	203.53
48.	192.82	194.93	197.04	199.15	201.26	203.37	205.48	207.59
49.	196.88	198.99	201.10	203.21	205.32	207.43	209.54	211.65
50.	200.94	203.05	205.16	207.27	209.38	211.49	213.60	215.71

We could give the capacity for silos of larger diameter; but it seems to us preferable to build two smaller silos, rather than one so large that at least two inches of the whole surface of silage could not be fed out daily.

The feed or ration of silage for a full grown cow is about one cubic foot per day. From this estimate the amount required for a herd of any size for six or eight months may easily be estimated.

A GOOD FARM HARNESS.

For some time we have needed a new harness for general farm and road work. Recently we had one made to order that suits us very well.

Our old harness had back pads that many times were not only a nuisance, but caused more or less irritation to the horses. Consequently our new harness has no such pads.

In place of the pads we have substituted breeching, with straps underneath connecting with the neck-yoke hold backs. The harness fits the team nicely, and there is no unnecessary chafing.

Whether the team is hitched to a wagon, plow or harrow, the line of draft is at all times properly adjusted, and we never had the work team more comfortably fitted out for all kinds of work.

TREATMENT OF CORN SMUT.

In reply to an inquiry we will state

that corn smut is very widely distributed, but the per cent of actual loss by smut is very small.

Statistics show that there is less than one-half of one per cent loss. We find no record from any of the Experiment Stations giving any successful method of preventing corn smut.

We pay little attention to the smut, as we seldom find a smutted ear. The only method we can recommend is to gather these smutted ears and burn them. We seriously doubt whether there is any more corn smut in the average field of Indian corn than there was 25 years ago.

CELLAR VENTILATION.

I have a cellar about 26x26, which was very damp, and in the coldest weather was liable to freeze, even after being banked up around the walls, nearly half way down.

I put in a six-inch tile, even with the bottom of cellar, and out about four rods, and then an elbow leading to the top of the ground a foot or more, with a tin pan over the top, raised sufficient for air to pass in.

And then, as I thought this would do no good without a chance for the air to pass out, where it is much higher than it enters, there should be a flue in the chimney, if convenient to make one.

I had none, and I made a tube of boards, eight inches square, inside measure, leading from near the bottom of the cellar to the top of the house, and five feet above the peak.

I had a cap made to fit over it with open sides, hung on a spindle, to turn from the wind. It works nicely.

I have not banked my house, or darkened the windows since. Have had no frost in the cellar since. Always have fresh air, warm in winter and cool in summer. It also carries off all foul air.

Livingston Co., Mich. JOSEPH RIDER.

Were we building a new cellar, or new house, or both, we should build the chimney to run from the cellar bottom to the roof. This would furnish excellent ventilation to the cellar, and a draft also to the stoves or furnace. It seems to us that this would be preferable to any sub-air duct.

HAND POTATO PLANTERS.

About a dozen queries have reached us, asking where these hand planters may be obtained. Look over the advertising columns and you will find what you want.

One correspondent says he has looked over a certain issue and found nothing of the kind advertised. If you will look over successive issues you will find the required tool. All manufacturers of such tools should keep an ad. running in *The Farmer*, especially at this time of the year.

EXPERIENCE WITH MANURE.

To the Editor of *The Michigan Farmer*.

I thought as I was writing to renew my subscription I would give a little of my experience in the use of manure as a dressing. Two years ago I had a 3-acre field to break for corn. There were three or four hard clay knolls in the field on which the corn was a failure. After the corn I sowed the field to oats; the oats were very light. Following the oats the same

field was sown to wheat, after plowing and rolling. I drew on twenty-five or thirty loads of manure and spread it all on those clay spots, and then finished fitting it for wheat. On those clay spots there was fully twice the amount of wheat there was on other parts of the field. I have another field of six acres that has been treated the same way, and as far as the two previous crops are concerned, were about the same as the other field, and at the present time the wheat looks 50 per cent better on the clay knolls.

Now, I will say in conclusion, I like The Farmer very much, and am very much interested in reading the articles on all the subjects that are discussed in its columns from time to time, but would like it a little better if there was a little less Grange news and a little more horticulture, but have long since learned we can not have everything to our own liking.

J. D. PIERSON.

Ottawa Co., Mich.

SEED POTATOES.

HOW TO OBTAIN BEST RESULTS FROM KNOWN VARIETIES.

In taking up the subject I would say that only results obtained in field practice will be noted, also that like results may be secured in any of the central or northern States.

One reason why tests have varied so much at the different stations is the fact that absolutely worthless varieties grown on ordinary farm land will produce the best of results under stimulus of extra fertility and special fertilizers.

A "new variety" inherits a natural form that may be improved by constant selection, or practically exhausted by two or three seasons careless handling on poor soil; so, without proper usage, a variety soon "runs out" with the individual and new seed has to be obtained.

In considering seed potatoes "comparatively" we divide into the following classes: First, seed having natural vitality; second, size of seed piece as compared with number of eyes; third, "acquired vitality," from constant selection. Please note that it is by selection only from seed having natural vitality, using the largest comparative seed piece to number of "live eyes" that we obtain seed that has acquired vitality sufficient in amount to produce increase of productiveness.

An increase of fertility in section of field where seed is to be secured assists in acquiring vitality, and can be practically followed out by most men who grow for market purposes, and with increased profits.

The most valuable part of the seed potato is the seed end, hence any and all cutting machines or boxes or any device whereby the seed end is detached and thrown away is a useless waste and should be condemned. The above principles are applicable to all varieties grown.

The difference in varieties renders it impossible to prove anything by using the same number of eyes for comparison; also as the habit of setting varies with the different sorts, so we advise potato growers to "cut and try" according to following methods if varieties are not mentioned.

Sprouters and non-sprouters is the easiest way to distinguish between those varieties which lie dormant in and under ordinary storage conditions till planting time, as against those sorts that commence to sprout at the first advent of spring. Of the latter sort it generally takes from one-third to one-half less seed to secure the same results as of the non-sprouting or dormant sort. Personally considering the matter, we will not crop a variety that we have to sprout in May.

Halves of sprouters will set as many potatoes as twice their weight or a whole potato of the dormant class. Example: One-half of a two, three or four ounce Beauty of Hebron will set as many as a two, three or four ounce Carman No. 3.

All eyes produce stalks as a rule in sprouters, while in non-sprouters we find "blind eyes," which we were first to discover. These blind eyes are a blessing in disguise, enabling the farmer when seed is scarce to secure the best form of small seed, viz., whole potatoes.

Two, three and four ounce potatoes planted whole of the non-sprouters will yield as good, and oft-times better, than seed cut too fine of larger stock. Those having only small seed will do well to note above, but even sprouters should not be cut smaller than halves, on account of producing rank stalks, in which case their bread will be mostly

dough. One of the most important points is to secure a lively, strong and vigorous set of stalks or plants at the outset.

In cutting long potatoes like the Burbank, Seneca Beauty, Onward, Money Maker, or any other early or late sort having form like Burbank, the method illustrated in Fig. 1 should be adopted.

The eyes of a potato run to a common center, from which all derive nourishment. This eye center is located, in heart-shaped potatoes or in nearly round varieties, at about one-third of the distance back from the seed end, and with which all sprout eyes connect.

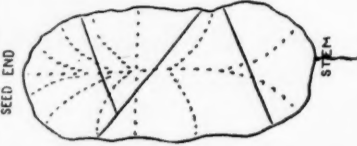


FIG. 1.

In varieties like the Burbank this eye center is found at about one-third the distance back from seed end and continues back toward the stem end, in many sorts not continuing farther toward the stem than to the middle of the potato, sometimes a little farther, but the bulk of the development is always in the half containing seed end.

Years ago in our experiments with "blind eyed" potatoes we made this discovery, and the following one, also, that it was the distance from the eye center that made the stem end eyes slower to start and often blind; also, how to "cure" them. The eyes on the seed end are so close to the eye center that the sap is obtained through their conductors more quickly, exhausting the supply, so that the stem end sprouts are "froze out," so to speak.

Cutting the potato in quarters lengthwise only makes matters worse, as it still weakens the stem sprouts. In very large potatoes a way that gives good results is to cut off the stem end, taking about one-third of the potato, then splitting directly through the center, but for ordinary sized stock it is better to cut as per lines in figure 1.

Commence at stem end always, taking potato in hand narrow side up and starting knife so that two eyes will be taken in on top edge and slanting back so but one eye will be taken in on bottom edge, then turning potato right over and cutting for two or three eyes in sight, slanting knife so it will come out at about where first cut was made and repeating the turning and cutting till seed end is reached, when it may be cut or split directly in center of seed end, or, if the eyes are too numerous, cut in thirds as per figure 2.

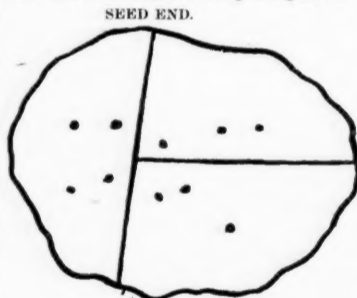


FIG. 2.

We do not like quarters at all, unless seed end is very large. Long potatoes, cut after diagram in figure 1, will send a healthy sprout from every eye and produce fine tubers; also potatoes cut in this way are very much less liable to rot.

Those who have seed of Rural New Yorker, Green Mountain, World's Fair, Maggie Murphy or others of like shape, weighing from two ounces to four or five, may secure good results by planting the two-ounce potatoes without cutting, making halves of the three-ounce size and dividing the four and five-ounce potatoes into thirds, as per diagram in figure 2.

Not every farmer has a bin of No. 1 seed to go to this spring, and it is well to bear in mind some of the above pointers in regard to small seed and cutting so as to obtain all possible growth from all eyes. Large potatoes of the last named sorts we should cut as per Fig. 1, using whatever number of eyes wanted in a hill on one piece for drills or hills as may give you the best results from past experience. Also the last-named sorts may all be grown profitably in drills from hand or machine planting.

The Carman No. 3 and Banner, with the Rural, are most adapted to either successful drill or hill culture. Those who plant the Carman No. 1 must be sure and not seed too heavy, as they

are quite liberal setters, three eyes from large seed being sufficient for hill culture and two eyes for drill system.

To those who plant late in the season we would say that we have been conducting experiments for several years to ascertain which, of all obtainable sorts, would produce best results when planted late, and for the last three years the Carman No. 1 has been clearly in advance of all for extremely late planting.

In 1896 we secured ripe stock from Carman No. 1, planted the 1st day of July, and also a larger yield. Its great value lies in the fact that it will produce a crop of ripe tubers planted two weeks later than any other variety that will equal it in yield, also is valuable for a second early.

Now one word more in regard to time of planting above varieties. With the exception of the Carman No. 1, it is not safe to plant after the 5th of June at the latest, if you are to expect a crop of ripe tubers. A little extra bustle will get them in from the 15th to the 25th of May and you will be the gainer in the long run. I would like to see the markets free from unripe "Michigan stock." Will close by wishing The Michigan Farmer potato-growers abundant success.

Eaton Co., Mich.

W. E. IMES.

From Our Paris Correspondent.

NOTES ON FRENCH AGRICULTURE.

Paris, April 30, 1898.

The rise in the price of wheat is not regarded as serious, so the government has definitely refused to lower the corn dues of 70 francs per ton. Were such to be accorded now, the reduction would go into the pockets of the grain speculator, and the consumer would thus derive no benefit. Besides, there is no want of supplies in the country; the deficiency of the 1897 harvest, about one-fifth of the total yield of cereals, has been already met by purchases. And the farmers have much wheat in their granaries; but if it was shown they declined to sell, in order to force prices, the government was fully prepared to meet that case. Such are the views of the prime minister, who is also the chief of the protectionist party. Besides, wheat is not a contraband of war, and neutral ships can transport from what countries they please. The grain harvest is excellent in Egypt, Algeria and Tunisia, and will be ready for the sickle in May; the prospects of the home wheat crop are "marvelous." M. Premier Meline hints that in the pending general elections the town candidates would do well to eliminate the grain question from their programs.

It is often asked why the Swedish turnip is relatively ignored in France. Much is due to the climate, which suits mangels better, and the milk from cows fed on the latter has no turnip taste, nor the butter either. Perhaps, also, the mode for cultivating the rutabaga is unknown. They were the monks of La Meillerie Abbey who first introduced the culture of Swedish turnips in the western region of France, as a crop admirably suited for the reclamation of waste lands. Bretagne—said to be the backward district of France—took the lead in the culture of the new root. But then the climate is humid, temperate, and foggy, the soil cool, of mean consistency, indeed almost light. Where conditions the opposite of these exist, the turnip crop does not succeed. In the bay of Mont Saint Michel, the surrounding land is of an alluvial character and therein the turnip thrives well. The Swede is a voracious feeder, and has a remarkable power for assimilating nutriment; hence, feed well to secure an abundant crop. Soils newly broken up receive 16 cwt. of slag powder, and 10 to 20 tons of farmyard manure per acre, plus 80 bushels of sea sand; the latter can be reduced when the slag is used. In the case of ordinary land, after the grain crop is removed, the stubble is well harrowed; some weeks later a plowing of 6 to 8 inches is given. In spring a plowing of a similar depth of furrow takes place, the manure applied, the soil harrowed and rolled. The mode of culture is peculiar; the Swede is rarely raised from seed on the ground where it is to grow, and where such has been tried the small hand sowing machine suffices, and 1-4 lb. of seed per acre; that "thick sowing" is to make good for ravages against the fly; a slight top-dressing of ashes, superphosphate, and soot is given. The general plan of raising Swedes—the Skirving variety—is like cabbage; the seed is sown in a nursery

bed, and between April 25 to May 5; the plants will then be ready for dibbling out from June 25 to July 20; all sickly plants are rejected and roots, if too long, shortened; the root is then dipped in a paste of cow dung and earth. The plants are 2 feet apart. All expenses included, that mode of raising Swedish turnips costs 329 francs per acre; the rent and taxes there figure for 45 francs.

Prof. Grandean, of the Agricultural Station of the Parc des Princes, outside Paris, desirous to satisfy public curiosity respecting the efficacy of "alinite," in augmenting between 35 and 40 per cent the yield of a cereal per acre, has just commenced experiments with that powder, following the methods of Messrs. Caron and Stoklasa. The problem may be resumed in a few words. Clover, lucern and leguminous plants, have on their hair roots "nodosities," or tiny balls, the workshops where the microbes manipulate the free nitrogen of the air for the plant's food. Hence, why a leguminous plant always enriches the soil. M. Maze has shown the microbes prepare and store in the nodosities albuminous, that is, nitrogenous aliments. Messrs. Caron and Stoklasa after four years of laboratory and field experiments showed that cereals had their food-preparing microbes also, of a different kind; however, they acted in a different manner; cereals have no "nodosities" on their rootlets, but their special microbe has the power to act on the nitrogenous matters left in the soil by preceding crops, by nitrifying them, and making the albuminous substances soluble, and so pass them into organism of the cereal. In the case of forest vegetation, M. Ed. Henry has just demonstrated that they are the dead leaves that supply the soluble nitrogenous principles to the roots of trees. The "alinite" is a dry, yellow powder, prepared by Messrs. Fr. Bayer & Co., of Elberfeld, in Prussia. It consists of the culture of the microbe megatherium that aids the cereals. It is sold in bottles, to be kept from light and air, at the rate of 12 francs per 6 grammes—a good quarter of an ounce; 2-5 grammes suffice to inoculate the seed grain for one acre of ground. Sterilized water is the best to employ in which to dissolve the powder-germs; the latter propagate rapidly; in a cubic centimetre of distilled or sterilized water, free from all life, 312,000 of the microbes at once appeared; they became 1,398,400 after 24 hours, but after this period propagation diminished. The temperature of the water was 68 degrees Fahr. Bacteriologists can easily estimate the parasites. Prof. Grandean, who manages his private estate in Alsace like a model farm, selected four plats of ground in the Parc des Princes, each 66 yards in area; he divided them into two equal parts; one moiety was sown with Polish oats "alinited," and the other moiety with the same oats in their natural state. For two cuts of seed oats M. Caron employs 3 grammes of alinite dissolved in 2-2 quarts of water—all the grains thus receive the microbe. Prof. Grandean acted on the same ratio; he dibbled 2 grains of oats in the one hole, per 10 square inches, or a total weight of 5-12 ounces of oats, that were moistened with the dissolved alinite, and sown after quarter of an hour. The seed was sown on the 16th of April. The harvest will tell the result.

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DWARF ESSEX RAPE.

Within six weeks from time of sowing it is ready for pasturing. One acre will carry 12 to 15 sheep from 6 to 8 weeks. Price by freight, or express: 1 lb., 10c.; 10 lbs. 8c. per lb.; 30 lbs. 75c. per lb.; 100-lbs. or more, 7c. per lb. S. M. ISBELL & CO., 125, 127 and 129 W. Pearl St., Jackson, Mich.

RAPE SEED. Choice imported sowing, 10c. per lb.; 100-lb. lots \$7.50 per cwt. Bays 15c. extra. A. H. FOSTER, Allegan, Mich.

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Address all correspondence to MICHIGAN FARMER
Detroit, Mich.

HAD A VALUABLE EXPERIENCE.

A Michigan feeder has been having what ought to prove a profitable experience in feeding cattle the past season, and he furnishes the *Michigan Farmer* with the details of how he lost his money and got his experience. Here is what he says:

During the past winter I have had an experience which may be of interest to your readers. Like many others, I was "caught short" of cattle for winter feeding, and bought in September twenty steers, which came from Wisconsin by way of Chicago. They were not a good bunch in any way, but only a few of them seemed to show Jersey blood, and it seemed impossible to get good cattle. They did poorly during the fall, and went into winter in poor shape; but hoped that good feed and care would put flesh on them, and not until March had come and I had fed a surprising amount of grain and hay did I fully realize the utter folly of trying to make beef cattle of such ill-bred steers. As the season went on they seemed to develop more and more and more of the Jersey characteristics and to show themselves entirely unfitted for beef purposes. They would neither grow nor take on fat, and I finally sold them for what they would bring instead of taking them to Buffalo, as I intended. Meanwhile a few well-bred steers of my own raising grew into fine cattle in the same yard.

That experience fits in very nicely with what *The Farmer* has said of the foolishness of wasting good feed on worthless animals. It is better to sell the feed, bad policy as that is, than feed it to such steers as are described above. The description of the steers leads us to believe that they were raised in that part of Wisconsin where C. P. Goodrich has been doing missionary work, and one might as well expect to fatten him as those cattle. Wisconsin is worse off for beef cattle than Michigan, and if Mr. Goodrich, and other dairy enthusiasts had their way, beef would be discarded altogether and people would subsist entirely on bread and butter—and Jersey butter at that. But the experience given above is only of one feeder. There are others, and before the farmers have got back to where they were ten or twelve years ago, many others will have as profitless an experience as the correspondent mentioned above.

FOOD VALUE OF BEANS.

To the Editor of *The Michigan Farmer*:

I would like to know the relative food value of beans in comparison with corn or oats. I am feeding them cooked to stock; is there any better way? Is there any danger of injury from feeding too much or from the gravel stones that are sometimes in them? Please answer through *The Farmer*.

Kalamazoo Co., Mich. M. MALONEY.

Beans are a very nutritious food, especially strong in albuminoids, or flesh formers, as they are sometimes designated, but containing less fat than corn or oats. They are more difficult of digestion than the two other grains named, but as part of a ration for hogs or sheep, they are very valuable. For hogs they should be cooked, but for sheep or horses they can be fed raw. The following figures give the relative feeding values of the three grains mentioned, as determined by chemical analyses:

	Albuminoids.	Carbo-hydrates, including fibre.	Fat.	Nutritive Ratio.	Relative value per 100 lbs.
Field Bean	23.0	50.2	1.4	2.3	\$1.51
Oats	9.0	43.3	4.7	6.1	0.98
Corn	8.4	60.6	4.8	8.6	1.11

This will give you a fair idea of the relative value of these feeds. But it must be remembered that oats and corn are more digestible than beans, hence the latter, while rich in albuminoids, are not so much more valuable to the feeder than the first two grains because of that fact. If corn meal is fed with the beans the animal will get a better balanced ration, because the former contains more fat, and is more digestible. Where animals are getting a good deal of exercise, such as a driving horse, or one at hard work, the bean is a good ration to sustain strength.

Texas ranchmen are said to have paid out more money for well-bred bulls in the past six months than ever before, and we may look for a steady advance in the quality of beef cattle from that State.

For *The Michigan Farmer*.

FORCING PIGS TO EAT AND GROW.

It is a fact that some men will feed a bunch of pigs on less feed and make them gain more than others can on a considerable larger quantity. There must be some cause for this outside of the relative merits of the feeding qualities of the feed used. To make a pig gain so there will be a profit to the feeder is something every swineherd should try to do. Guesswork does not answer in this case—as a large swine-feeder told me the other day that no one could feed hogs and know what they were doing without scales. At least once a week they should be weighed, and then when one keeps an account of the feed given them it is easy to tell whether they are paying or not.

Several years ago I remember experimenting with 18 head of pigs which belonged to my father in a similar manner. The result of the experiment was astonishing, and while the writer has not had the means since farming for himself to purchase all of the necessary farm tools, such as stock scales, etc., the lesson has been one of value. The 18 head had had a splendid clover field to graze in—in fact, that was all they did have from the time the grass was large enough or old enough to turn into, till the peas ripened in July. Before turning into the pea field we got them on the scales and took down their weights. (I cannot give figures as I do not have them at hand.) As Friend Cowdrey says, we let them "hog down" the peas, and it paid, too. We weighed the hogs when the peas were gone, and shut them in a small yard with a good floor to feed on. We considered at the time that an acre of peas was worth an acre and a half of corn. I think so yet.

The first two weeks that we fed corn it brought us 50 cents per bushel of ears—counting hogs at 4 cents live weight—just what we sold them for. Every week after, they began losing in their gain, but did not eat any less corn. The third week the corn consumed only brought us 40 cents. The fourth week 35 cents, and so on down till the corn only brought us 15 cents per bushel. We did not hesitate to let them "go." Had we been feeding without knowing just what we were doing undoubtedly we would have kept them for some time, and been the losers by so doing. As it was, we got a good price for our clover, peas, corn and labor. Last year we managed so that our corn brought us 45 cents a basket. Corn was only worth in this section about 20 cents, and hogs \$3.60 live weight. That is what I sold ours for to get the price that we received for our corn. Had hogs been selling for as much last year as they do some times, our corn would have brought us a considerably larger sum. Then, again, if hogs had sold as cheap as we have known them to, our corn would not have netted us nearly as much as it did. Yet as cheap as corn was last year and the year before, there never has been a time since I can remember when it would not have been profitable to have fed the corn. As I have said of the dairy business, we are "stocking up," which is true also of the swine business. We now have 80 head of the hog kind on our farm. Out of 56 pigs born we have only lost three; two of these could have been saved had the writer stayed at home and let the hired man drawn hay in his place. But, as is always the case, something new happened this time and the death of two pigs was the result. When I read of Friend Cowdrey's loss, or "bad luck," I thought we had no reason to complain of so small a loss; but I never like to see anything die when it could as well have been saved.

We always manage to sell our hogs (or pigs) before the corn gets matured. This leaves one year's crop to play on, which we would not know how to get along without. When we get to going just right we are going to drill in a field of corn each year just to turn in our hogs and let them "hog down" that too. We tried it last fall on an acre of good corn and found that it was better, with less expense and labor, than husking and then feeding. Anything that can be done to lessen the labor should be looked after, and any reader of *The Farmer* that has a small field to spare had better give this a trial, for it is a "sure thing" when it once gets noised around.

As for a grazing crop, we have tried several kinds, and find the early June clover superior to all. This year our pigs will have to eat mixed clover and

timothy grass, but we do not expect to get caught like this again. We expected to turn off 19 head in the winter, but did not, and now they are doing splendid work, gaining on mostly grass. Grass is the most profitable thing to make a "porker" of if it can be done. We find these 19 very light in the morning. This gives them an appetite to go out and eat grass during the day. At night we feed them about all the corn they will clean up. This makes them sleepy and puts on lots of fat. Whereas, if they had all the corn in the morning that they could eat there would be no room for grass, and the corn would soon be run off with very little gain—at least that is my experience.

ELIAS F. BROWN.

THE SHORTHORN AS A DAIRY COW.

From our English Correspondent.

While the subject of dairying is being discussed, let us take a look at the Shorthorn as a butter cow. There were three tests of cows at the Agricultural Hall the past winter, one of which was confined to the Jerseys, with their 14 entries; another to the Shorthorns, with 17 entries, but only 9 competitors; while the third was for cows of any other breed or cross, and included Red Polls, Ayrshires, Dutch, and cross-bred cattle. The largest quantity of butter produced in the day by any animal was given by a cross-bred cow of Shorthorn type. This was 2 lbs. 13 1-2 oz., from 46 lbs. of milk; the second largest yield was taken by the cow Gaiety already referred to—2 lbs. 11 3-4 oz., from 53 lbs. of milk; while the third largest yield was by a Jersey cow—2 lbs. 10 1-2 oz., from 47 1-2 lbs. of milk. The Jersey ratio of milk to butter was 17.88, the Shorthorn was 19.49, and the cross-bred cow's ratio was 16.28. This is not only the best ratio but one among the whole of the cattle, but it is a figure which is equal to the best work of the very best Jerseys which we remember for years past. Of the nine Shorthorns four produced more than 2 lbs. of butter, indeed, more than 2 lbs. 3 oz. of butter, whereas among the other 32 cattle competing in the tests only five gave over 2 lbs. This shows of what the Shorthorn is capable. At the same time there are extraordinary disparities. Of the nine Shorthorns three produced a pound of butter from less than two gallons of milk, five others took from 25 lbs. to 30 lbs., or 2 1-2 to 3 gallons; while one animal actually required 49 3-4 lbs., or nearly five gallons, to produce the same quantity. We will not find fault with the method pursued, but it is morally impossible for the milk of a healthy cow to contain so small a quantity of fat. There is, however, this to be remembered, that the milk of some cows is less churnable than others, and consequently it is faulty, or less valuable for butter-making purposes. Among the Red Polls the milk was poor for butter-making, for the lowest quantity required to make a pound of butter was 30.40, while the highest was 43.74. On the other hand the Ayrshires showed the higher quality, but even these required from 25 lbs. to 28 1-2 lbs. We may take it, then, that there are first-rate Shorthorns, regarded from the butter-making point of view, and inferior Shorthorns, and therefore—as we have shown in previous years—it is possible, if breeders choose, to produce a cow by the process of selection which will not only excel the Shorthorn of to-day, but any other cattle which exist in the known world.

Yorkshire.

AGRICOLA.

BELIEVES IT IS INCURABLE.

At an Iowa farmers' institute the past season John Cowrie, a noted hog man, gave his opinion upon sure-cure hog cholera remedies. He affirmed his belief in the disease being incurable, all guarantees and testimonials from sure-cure medicine vendors to the contrary notwithstanding, and gave his three weeks' experience and trial at Des Moines, with the representatives of all sure-cure remedies that chose to come forward, as evidence of the truth of his statement. He declared it his honest opinion from those trials that they were one and all humbugs, and in their way were doing as much to impoverish the swine breeder as the disease itself. He urged farmers to do their utmost in the way of prevention and advocated the use of turpentine, carbolic acid, creosote and lime, as being the best remedies in that line, not to be used occasionally, but all the time. Also to thoroughly clean up

once a year and if possible give new yards and new troughs, and thought if farmers would do this and kill and burn the first hog they saw sick that the much dreaded plague would soon become a thing of the past.

According to the Department of Agriculture there were exported from this country during 1891, 392,190 head of cattle, valued at \$36,357,451; 290,395,930 lbs. of fresh beef, valued at \$22,653,742; 67,712,940 lbs. of salted or pickled beef, valued at \$3,514,126; 939,448 lbs. of beef cured in other ways, valued at \$83,701; 54,019,772 lbs. canned beef, valued at \$4,656,308; 75,108,834 lbs. tallow, valued at \$2,782,595; 1,400,863 lbs. glue, valued at \$132,581; 31,119,166 lbs. hides, valued at \$2,388,530; bones, horns, hoofs, etc., to the value of \$280,140—a total of \$72,849,179. The value of dairy products exported was \$9,654,395. It will be seen from the above figures that the beef steer is doing his whole duty, and is a revenue producer of the highest class.

A General Insecticide.

Those large irregular and unsightly blotches of bare skin seen on the animals now being turned to pasture, indicate ravages of lice during long confinement in winter quarters. Practically none of our farm animals are immune from these pests, and they may be present in great numbers when least expected. No farmer willingly suffers the loss incident to the presence of lice in his flocks and herds; but often quietly submits to it because he does not know a ready and safe means of relief. He knows that most of the ordinary home remedies are ineffective, and he also knows that such as are effective cause the loss of hair where applied, and frequently otherwise do more harm than good. It happens, therefore, that a remedy which will remove the trouble surely and without injury to animal or operator is of undoubted value. Such a remedy is Zenoleum, the well known disinfectant, germicide, and insecticide. It kills completely lice, ticks, scab, foot-rot, etc., in sheep; red lice, blue lice, ticks, etc., on cattle; lice on horses; lice mites, scurvy, scaly legs, etc., on poultry; fleas on dogs; lice, scurvy, etc., on hogs. Given internally it drives out all stomach and intestinal worms; kills disease germs, and leaves the general system in a much improved condition. Zenoleum is not expensive, when one considers its multitude of uses, it becomes almost indispensable to the owner of live stock. Write the Zenner-Raymond Disinfectant Co., Detroit, Mich., for circulars, prices, etc. Mention this paper, please, in writing.

The Akron Cultivator.

Among machines intended to better the farmers' condition, and to make his labors more easy and profitable, may be named the Kraus Cultivator, manufactured by the Akron Cultivator Co. of Akron, Ohio. This particular machine is described as the Pivot Axle Automatic Sulky and



Walking Cultivator. This means that it is a new form of the short or broken axle, where the direction of the machine is controlled by the feet. A new feature is the lever for controlling the width of the position of the gangs which may be instantly set close together or wide apart while the cultivator is in action. The machine is constructed of the best procurable material throughout, and should last indefinitely under ordinary care.

BIG BEAUTIFUL BARRED ROCKS. Lambert, Pitkin & Conger strains; eggs, \$1 per 16. Pekin Ducks, Rankin strain, \$1 per 11. E. M. KIES, Reading, Mich.

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The Horse.

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WANT NATIONAL INSPECTION.

At the late meeting of the National Horse Breeders', Dealers' and Exhibitors' Association, the following resolution was adopted:

Resolved, That The National Horse Breeders', Dealers' and Exhibitors' Association urge Government inspection of stallions for public service and a State Commission to prevent the breeding of inferior and unsound stallions, and that a copy of this resolution be forwarded to the Secretary of Agriculture.

While the efforts of these gentlemen to improve the breeding and add to the value of American horses are to be commended, we believe it is a matter entirely out of the purview of the national government to interfere in such matters. Under a different form of government, one which is understood to claim and exercise the right to interfere with the business of its people, such methods may be all right. But the American people are, as they should be, entirely competent to manage their own private affairs, and the only regulations required can be enforced by the various states, with less friction and better success, than if a lot of federal officials were stirring up trouble by their interference. If it is necessary in the case of horses, it is equally so with cattle, sheep, swine, poultry, pug dogs and Angora cats.

All that is necessary for the protection of the interests of breeders is the adoption by each state of a law similar to that in force in Michigan. This law provides that the owner of a mare is absolved from paying stud fees where the breeding of the stallion is falsified. The owner can protect himself by filing a lien on the colt of any mare bred to his horse where the fees have not been paid. These laws enforce themselves, and protect all parties. They leave the breeder free to follow his own judgment while protecting him against fraud. That is all that is necessary, and does not call for a single extra official or any interference with the private business of individuals. We object to breeders being kept in leading strings. Let them be free to exercise their best judgment and success or failure will soon educate them as to the value of breeds and individual animals. Great Britain is the greatest stock-breeding country in the world, yet the government never interferes in the business. That is the privilege of a despotic government, and entirely opposed to the genius of republican institutions.

HOW THE BREEDS ARE PRODUCED.

Live and learn is an old proverb, which seems to be as good now as when first formulated. For instance, we have just learned that the French Coach comes from Percheron mares, and that the Hackney is largely responsible for the American trotter. The latter contention is not entirely new, but it is founded upon rather weak premises. These remarks were brought out by a reading of the following paragraph, attributed to an authority on horse literature:

"The standard trotting bred horse as a show animal has some advantage over foreign competitors, in that he has a strong dash of the same blood that produced the Hackney and French coach horse, the former descending from the English thoroughbred, and the latter representing a cross of the bone bred thoroughbred on the best Percheron mares. The dam of Rysdyk's Hambletonian was a Hackney mare sired by imported Bellfounder, registered No. 55 in the English Hackney stud book. According to the records Hambletonian was a high knee acting, rapid gaited roadster of very compact formation, with fine style and plenty of substance. Through Hambletonian 10 and his descendants a large infusion of Hackney blood has been commingled in the breeding of the American trotter."

We have examined the catalogues of several importers of French coach horses, and are unable to find a single animal tracing to a Percheron mare, or containing Percheron blood. Either the assertions made in the above paragraph are untrue, or the pedigrees of the horses given in those catalogues are bogus. We prefer to accept the pedigree as published rather than the assertions of the writer referred to.

When we come to the American trotter, we are told that the dam of Hambletonian 10 was a Hackney mare sired by imported Bellfounder. The writer seems to forget that the dam of Hambletonian's dam was by the thoroughbred horse Bishop's Hambletonian, and that the dam of Hambletonian was

therefore only a half-blood Hackney. But the average Hackney admirer thinks everything sired by a Hackney stallion is a sure enough Hackney, especially if its tail is properly docked. They have even grabbed poor old Shepherd F. Knapp, dubbed him a Hackney, although there was not a trace of Hackney blood in his veins, bred him to all classes of mares—half-blood Hackneys, thoroughbreds, or anything that had some style and action, and called the produce Hackneys. The blood of imported Bellfounder may have been a great element in the success of Hambletonian as a sire of trotting horses, but it is evident he only carried 25 per cent of it, and his sons, grandsons, and great grandsons, have been dividing up this amount until it is so extremely attenuated that it is practically nonexistent in the modern trotter. We notice that other families, without a trace of Hackney blood, have produced hundreds of trotters with speed, substance, and action equal to the Hackney, and that no breeder would think of crossing his trotting mares with a Hackney stallion with the intention of getting fast trotters. In fact we find the Mambrino blood producing trotters of the first class, which can also go into the ring and show as fine action, as much style, and as symmetrical proportions, as the best Hackneys, just as Shepherd F. Knapp, from a mixture of thoroughbred, Morgan, and unknown blood, was as good a Hackney as could be produced in England, taking Burdett Coutts, the great boomer of Hackneys, as authority. It looks to us as if the paragraph quoted above was either written by a very ignorant person or a great bluffer, who expected his statements would be accepted without question.

HORSE GOSSIP.

It is rumored that Hamburg has become so lame that he has been thrown out of training.

Grand Rapids will have a race meeting in August, the Trotting Association being a member of the Michigan and Indiana Trotting and Pacing Circuit.

The owner of Nancy Hanks has bred her to the thoroughbred horse imported Meddler. This action of Mr. Forbes is regarded as very singular, to say the least, but it seems he has some theories regarding the breeding of trotters which he is bound to test.

The American horses now in England did very well at the Newmarket second spring meeting. On the first day, May 10, Richard Croker's two-year-old brown colt Knickerbocker won the Exning plate of 200 sovereigns (\$1,000), and the Lorillard-Beresford three-year-old colt Elfin won the Burwell stakes. On the second day August Belmont's three-year-old colt Bridegroom 2d won the Newmarket plate of 100 sovereigns. Six horses started in this race.

The new duty of \$40 per head imposed on American horses imported into France is equally applicable to horses entering the republic from all other countries. American horses can not be shipped to Antwerp and rebilled to Paris as Belgian horses, and thus evade the duty, as the duty is enforced on all horses entering France. There are no quarantine regulations connected with the new duty, but horses landed in Belgium are inspected for contagious diseases by a government commission and a fee of \$2 per head is charged for the examination.

General B. F. Tracy, secretary of war under Harrison's administration, has leased the historic Stony Ford stock farm, Orange County, N. Y. He will engage in the breeding of the American trotter on a large scale, removing his stock from Marshland farm to their new quarters, Stony Ford was founded by Charles Backman, in 1862, and is the oldest breeding establishment in the country excepting the Woodburn farm in Kentucky. It is a magnificent country estate of 700 acres on which a large fortune has been expended in buildings and other improvements.

W. B. Fasig has announced the conditions of the two trotting handicaps on the European plan which will be decided at the July meeting at Charter Oak Park, Hartford. The purses are \$1,000 each, with an initial entrance fee of \$20, with \$30 additional from acceptors, with 2½ per cent from money winners. Each race is finished at the conclusion of two heats. The horse or horses receiving the greatest handicap start from the wire, while the handicapped horses are placed back at various distances, as per their handicaps. The start is necessarily a standing one.

The winner of each heat will receive \$300, the second \$100, and the third \$75, and the winner of the race an additional \$50. Each purse is \$1,000. It is safe to say that these two races alone will attract large crowds, as they are not only novel, but promise to be most exciting.

On Wednesday of last week, at Louisville, Ky., the race for the Clark stakes, next to the Kentucky Derby in importance, came off, the contesting horses being Plaudit and Lieber Karl. It will be remembered that these two colts met in the race for the Derby, and that Plaudit was the winner. In that race he carried less weight than Lieber Karl, and only won after a very hard struggle. In the Clark stakes the conditions were reversed, Plaudit carrying 127 lbs., and Lieber Karl 122. Plaudit, however, was a better horse than at the time of his first race, and he won in a gallop, making the 1½ miles in 1:56½. The value of the stakes was \$4,000. Lieber Karl was a strong favorite in the betting before the start.

It is not possible to improve conformation or appearance of light harness horses by docking, roaching, pulling or hogging the manes. It is cruel torture to disfigure a horse that nature has given a full flowing tail by docking it, and thus depriving the animal of its defense against the attack of flies. It is a fashion condemned by the nobler attributes of fine taste and humane culture, and belongs to that category of barbarisms that disfigures the human form divine to make a fashionable appearance. The general acceptance of fashion requires the light roadster and gaited saddle to display a full mane, foretop and tail, but the coach horses and hackneys are docked and their manes trimmed or roached in order to please a false taste as to breedly appearance. Dealers would gladly abandon the pernicious practice, but are compelled to resort to this modern barbarism to please the demand of a most unnatural fashion.—Drovers' Journal.

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HOT-HOUSE LAMBS.

The business of raising hot-house lambs, as they are designated, is one that has assumed large proportions in the Eastern States, and has grown to some extent in Michigan. But our sheepmen have confined themselves largely to producing lambs ready for market in February and March, while at the east it is the Christmas lamb that is wanted, because it brings the most money. By the time the Michigan lamb is ready to market values have dropped very materially and decline rapidly from that time forward. The high prices, however, obtained for these out-of-season lambs are not all profit by any means. The conditions required are much more costly than with the ordinary lamb. There must be warm quarters, maintained so by artificial heat, and very careful feeding. The ewes kept in this hot-house condition soon lose constitution and vigor, and must be sold and replaced by others. These points should be well considered before embarking in the business. Galen Wilson, one of the earliest producers of such lambs, in the N. Y. Tribune, gives some interesting notes regarding his experience and methods. He says:

Hot-house lamb growing has arrived at great proportions in a few of the central western counties of New York. The fact is, almost every sheep owner here is engaged in this branch of sheep husbandry. The lambs are shipped slaughtered and "hog dressed" to New York city. Mondays and Wednesdays are shipping days. A car is fitted up specially for the purpose, with racks like a butcher shop, that they may not become soiled or disarranged. I reside on the line of road between Geneva and Ithaca. The distance between the two places is about fifty miles. The lamb car starts at Geneva and picks up lambs at all the stations. On a trip about the middle of March a thousand lambs were received between the two cities, our little flag station furnishing thirty-eight. These statistics are given to show the extent to which the business has grown in the locality named. When I first began to speak of these lambs in this paper, ten or twelve years ago, I could then name but two growers. They were called "spring lambs," as many call them now. Observing that a descriptive name was needed, and as the lambs are grown in warm rooms and in winter, I named them "hot-house lambs." This fits the case exactly, and everybody knows what the term means. But "spring lambs" defines nothing. It may mean lambs born in the fall or winter and marketed in spring, or born in spring and marketed in summer or fall. In speaking of any farm product, it is best to use a descriptive, definite term about which no mistake can be made.

"And does the business pay?" The answer to this may be found in the facts stated above. People would not be engaged in it to the extent they are unless it "paid." A significant point is that all who enter this branch of the sheep business remain in it, and those who are out are gradually adopting it. As to the real merits of the case, and considering all things, I believe that hot-house lambs can be and are grown to a salable age, which is six to eight months. Indoor lambs need more attention during the season of their growth, but it occurs in winter, when the farmer has nothing to do but "chores," and this addition to the chores costs nobody any money. More grain feed is required certainly, but this extra feed is not a total loss. Seventy-five per cent of its value is recovered in the manure, and every particle of the manure is saved, both solid and liquid, for the animals are kept under cover and well bedded; besides, from the liberal feeding, the ewes come to the pasture fat in spring instead of "spring poor," as is the case too many times in the old system of lamb-growing. And then there are no lambs to be attended to through the cold and stormy weather of early spring. Now, as to prices obtained for the two classes of lambs. Six-months-old lambs do exceedingly well if they bring \$3.50 a head. It is very doubtful if they average that. A hot-house lamb-grower not far from me averages \$7 a head, just double the liberal price conceded of lambs grown in the old

way. I have been unable to find the price of hot-house lambs quoted in any of the New York papers; but "The New England Farmer," of Boston, quotes them regularly. The season for these lambs opens at Christmas and closes the forepart of May, when outdoor-grown stock begins to arrive from the Virginias, Kentucky and Tennessee. Lambs are highest at first, but gradually decline as the season advances and they become more plentiful. At first the Boston paper quoted them at \$8 to \$12; later \$8 to \$10, then \$7 to \$9, \$6 to \$8, and on April 23 the quotation was \$3 to \$8. This shows the desirability of getting lambs to market as early in the season as possible; and it shows also that lambs grown properly bring a large price down to about May 1; indeed, I have known them to bring \$8 so late as the middle of that month. This subject has been a study with me for twelve years, and my statements are as fair and plain as I know how to make them. Some may engage in the business and then say they cannot get the prices named; but if so it will be their own fault entirely in not having done the business properly.

DIPPING SHEEP.

A. W. Biting, veterinarian at the Purdue University Experiment Station, in a newspaper bulletin just received, says on this subject:

The injury inflicted by the sheep tick upon the flocks in this State can only be roughly estimated. Ticks do not cause death directly, nor injure the wool, but cause untold torment by their biting and wandering about over the body. This saps the vigor of the old sheep, retards the growth of the lambs, and makes both susceptible to disease.

The tick is a wingless fly about a quarter of an inch long, having a large, strong, reddish-gray body, and six legs. The head is square and set directly on the body. The biting parts consist of a stout proboscis armed with a row of teeth. It lays only a few eggs during its lifetime, and these contain young ticks. The parasites pass their entire life upon the body of the sheep, and live by sucking the blood. They can live for only a few days when removed from the sheep. Their destruction is comparatively easy, as they are susceptible to nearly all the agents that destroy parasites.

The most opportune time for killing ticks is just after shearing, as the ease of handling and the cost of dip is reduced to a minimum. Nearly all the ticks will leave the sheep for the lambs, so that the work will be very effective if only the lambs are dipped. It is better, however, to dip both old and young. The sheep should be examined carefully about three weeks after dipping, and if any eggs escape destruction, the sheep should be redipped.

The apparatus necessary may consist only of a box or barrel, into which the animals may be submerged, and a table upon which they may be allowed to drain. Such temporary arrangements necessitate considerable labor and loss of dip. A special tank may be purchased or built, if a large number are to be handled, as one will soon be repaid for its use. The tank should be about eight feet long at the top, and two feet wide. It should be 4½ feet high and one end made vertical. The sides should slant so that the bottom will be from five to eight inches wide. The bottom should be about 3½ feet long, and one end made to slant so that the sheep may walk out. The tank should set into the ground and a chute made so that the sheep may be driven into the tank. A good tight wagon-bed may be used as a drain floor, and the back end placed over the end of the tank to return the dip. With such an arrangement several hundred sheep may be dipped in a day with comparatively little work and a great saving in dip.

On the whole it is more economical and satisfactory to use some of the good sheep dips offered upon the market. These dips usually contain arsenic, extract of tobacco, or products obtained from creosote or tar as the destroying agent. As the latter dips are effective and less dangerous in the hands of most people, they are to be preferred.

(The use of lime or sulphur should be avoided by flock-owners, as these articles have a very bad effect upon the fleece, rendering it harsh and weakening the fiber.—Ed. Farmer.)

As an indication of how the sheep business is regarded in Montana, we note a recent sale of 3,000 lambs at \$3.55 per head. Two years ago it would have been impossible to get more than \$1 per head for them.

FLOCKS AND FLEECES.

Wyoming sheepmen expect the clip of that state will foot up 4,000,000 lbs.

Wool is quiet, not much moving at eastern points. Values, however, are firm, and we look for a stronger market in the near future.

Lincoln rams are selling at extremely high prices in Argentina. At a recent sale 30 head brought a total of \$33,610, one ram bringing \$3,000, and the lot averaging \$1,120.33.

Russia has 60,000,000 sheep, of which one-fourth are Merinos, averaging six pounds of wool each, and the 450 woolen mills of European Russia employ 50,000 workmen and produce goods valued at 45,000,000 rubles.

The latest government report shows that sheep only increased \$50,000 during the past year. The high price of mutton was one cause why the increase was not greater, but that fact greatly helped the income of the sheepman from his flock.

Don't make your sheep or lambs too heavy. It is the well finished handy weight animal, which can be utilized by the local butcher, that brings the top price. Exporters take the heavy ones, but always at a lower price than the others.

W. W. Warren, of Branch County, sends us some items regarding his flock of Shrops, and a sample of their fleeces. The wool is very good in quality, longer stapled than usual but there is a little dead wool at end of staple, the result of exposure. It is a class of wool which will be in demand by manufacturers with government contracts. Mr. Warren says 11 yearling ewes sheared 133 lbs., an average of over 12 lbs. per head. His breeding ewes averaged over 9 lbs. per head. This is a good average for the breed.

It is not generally believed that the available supply of sheep for the next few months will be large. This is the season when Texas sheep should be coming freely, and so far nothing has been received. Texas sheepmen are trying to regain their losses of the past three years, and are retaining everything that will do to breed. They will come to the front again about the time the country is oversupplied. The Western range will probably furnish as many as usual this year, but not many will be received before August, and until then heavy supplies are not generally anticipated.—Drovers' Journal.

"Sugar lambs" is the latest fad. They come from Colorado and are fattened upon sugar beets and finished on corn. Some few were handled in this manner last winter, and it is said that the result was so satisfactory that next winter the most of the feeding will be done with the beets. As a material for a sugar factory, the beets are worth \$4.00 per ton, but as feed for lambs and cattle they are said to be worth \$4.50 to \$5.00 per ton, and for

cattle feed it is not necessary to take such care in producing as for sugar. There will be many thousands of acres raised this year, and a market is certain for all that can be produced. In northern Colorado lamb feeders are particularly anxious to have a supply of sugar beets for next fall's feeding, and there is great interest in the experiments that have been and are being made. "Colorado fed lambs" are already celebrated all over the world, and "Colorado sugar lambs" sounds inviting and should make even a greater hit.—Denver Daily Stockman.

Regarding the business of sheep feeding in Colorado the Field and Farm says: "One lamb eats 400 pounds of hay and 175 pounds of corn. The cost with freight paid to Chicago is about \$2.25 each. The 70,000 lambs that we have already marketed ate 14,000 tons of hay at \$4.00 a ton and 1,195,000 pounds of corn at an average of fifty-five cents per cwt. According to these figures the hay cost \$56,000, corn \$6,572, lambs and freight \$158,177, or a total cost of about \$221,000. This left the farmers close to \$60,000 with which to pay interest on the capital invested, pay their help and other incidentals, and should have a net profit after paying everything of close to fifty cents a head, to say nothing of their profit on the hay, which is the prime object with all."

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Farmers' Clubs.

CONDUCTED BY A. C. BIRD.

All correspondence for this department should be addressed to A. C. Bird, Highland, Mich.

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All communications relating to the organization of new clubs should be addressed to C. M. Pierce, Elva, Mich.

THE PURE FOOD DISCUSSION.

All who are interested in the discussion of the May Association question, "Dairy and Pure Food Laws and the Farmers' Relation Thereto" should read the series of articles on "Flour Adulteration" contributed by Dr. R. C. Kedzie of the Agricultural College, and published on the editorial pages of The Michigan Farmer in the issues of April 23, 30 and May 7. These articles treat of a subject that is of grave importance to the wheat growers of Michigan, and indeed, of the entire country, and every wheat producer and every wheat consumer should give them the most careful consideration.

Dr. Kedzie is one of the world's best authorities on the subject of which he writes, and every word may be relied upon. More than all, he is a tried and true friend of the American farmers, and has given the best part of his life to practical investigations in their interests, of which his present campaign against flour adulteration is but a fair illustration.

In connection with this subject there is a great work to be done by the farmers of this country, and the plan outlined in the articles referred to is the only practical one in view. No other organization is so well equipped to carry on this work in this State as the farmers' clubs, and from the interest already manifested by the clubs we feel safe in promising their earnest, united and practical effort in its behalf.

FARMERS' INSTITUTES AND THE M. A. C.

In another column we publish a communication from Mr. G. Carleton, of Hillsdale Co., under the heading, "With Reference to President Avery's Inquiry," which we believe demands editorial comment. Our friend makes an error, becoming altogether too common, of holding the College responsible for existing conditions in Institute work and management. The facts are these: The College and the Institutes are two independent institutions. The one must not and cannot justly be held responsible for the success or failure of the other. The College has a great work to do, and is at present doing it well and to the satisfaction of the farmers of Michigan. To hold it accountable for the shortcomings of other organizations which happen to be placed indirectly in general charge of the State Board of Agriculture is both unfair and unjust to the great educational institution at Lansing, which is doing such magnificent work for the farmers' sons and daughters of this State.

We shall find no fault if the State Board of Agriculture is criticized for the imperfections of any of its diverse charges, be it the M. A. C., the Institutes, the enforcement of the San Jose Scale Act, so-called, or whatsoever it may be. But let not any one of these suffer for the shortcomings of the others.

It may be of interest to Mr. Carleton and many others to learn in this connection that with one exception no employee connected with the College, from president to farm foreman, receives any pay from the Institute fund, no matter how much Institute work he may do. The one exception is Superintendent of Institutes, K. L. Butterfield, who receives a salary of \$600 as Superintendent and is also employed as College field agent at a salary of \$600.

REPORTS FROM LOCAL CLUBS.

UNION OF MUSSEY FARMERS' CLUB.

May meeting the 5th inst. at the home of Edward Matteson. Viewing committee reported on the farm of S. Sherrard as they found it April 7th. They said barns and all outbuildings were in good repair, the farm in good shape and tools ready for spring's work. A. C. Fairbrother, on the prop-

er tillage of soil, brought up the question: Is it advisable to harrow corn after planting? R. Showler had harrowed to good advantage after the corn was several inches high when the ground was hard and dry on the surface. O. B. Smith and A. Tosch both agreed to the value of the practice under such conditions. Mr. Fairbrother believes in planting in hills, three and one-half feet apart each way. Had saved time by fastening the corn marker behind the roller for the first marking. D. Foley prefers the drill. It saves time, keeps ground in better shape and gives greater yield. A. Tosch favored drilling, from the fact that he could work closer to the row, and hence keep crop cleaner.

Suggestions for the good of the club: S. Sherrard: The meetings are beneficial both socially and financially. D. Foley: It is good for farmers to meet together. We ought to get the young men out to these meetings. We could help them by our experience and they could help us socially. A. Tosch: The farmers should give the boys something to call their own. It gives them an interest in the farm. Let the boy plant a piece of ground for himself and give him a chance to see what he can do, and have something to look ahead to. In that way boys will be induced to like the farm. We must keep the bright young fellows on the farm.

Next meeting, June 2d, at A. Baldwin's.

MRS. R. M. MATTESON, Cor. Sec.
St. Clair Co.

WALES FARMERS' CLUB.

The May meeting was held at the home of William Mason, and an increasing interest was shown. "The most profitable fence," was discussed. The Page woven wire, the Peerless wire, and the Hedge each had their advocates, but all agreed on one point, namely, that whatever fence was used it must be properly put up, built of the best material and constructed so as to turn hogs, sheep and cattle, if it is to meet probable future requirements.

Next meeting at the home of I. P. Green, June 3d.

St. Clair Co. ALBERT HAND, Cor. Sec.

PROGRESS FARMERS' CLUB.

Club met May 3d with Mrs. M. A. Meracles. It was one of the most interesting meetings held this year. The Association topic, "Dairy and food laws, and the farmers' relation thereto," was discussed. N. E. York said the law was only a step in the right direction. This was the general opinion of all present. The following resolution was adopted: That we approve the so-called Pure Food Laws of the State of Michigan, and do heartily endorse the efforts of Hon. E. O. Grosvenor, Commissioner, in his attempt to enforce the same.

"Which is best, hill or drill planting for corn and potatoes?" This question caused a lively discussion, both methods having their advocates, and about evenly divided. Club meets June 1st with Mr. and Mrs. O. Bradley.

Tuscola Co. COR. SEC.

MARION FARMERS' CLUB.

It was hardly expected that so large a number of the members of the club would attend the April meeting, for the demands upon the time of the farmers during this month are almost imperative. Mr. and Mrs. W. A. Clark, however, found the seating capacity of their spacious home tested almost to its limits, and they are to be congratulated upon the fact that few of the earnest workers of the club were absent, while quite a number of visitors from other clubs were present. Aside from the general program several discussions were entered into, the most notable of which were, "Fire Insurance" and "Corn-Raising." The young members of the Marion club are worthily recognized, and no program is considered complete without them as entertainers.

L. I. BROMLEY, Cor. Sec.

GENOA FARMERS' CLUB.

Mr. and Mrs. Charles Pless entertained the club May 7th. A paper by L. W. Fish on, "Should farmers patronize city merchants?" brought out a discussion in which the club acknowledged that in order to build up our own community we must patronize our home merchants and industries. Some thought, however, that it would be better to first build ourselves up.

The papers presented by Miss Edith Lawson and Mrs. T. J. Conley were excellent. The club agreed with Miss Lawson that the ideal home is upon the farm, where all the family can work together and enjoy the products of farm and garden, especially fresh fruits, vegetables and wholesome cream and butter; and not least, the fresh air. Mrs. Conley thinks the first thing for a successful farmer to have

is a farm, a good wood pile, neatly piled at the back door, barn doors well hung, fences in good repair, farm tools housed, study new methods of work, keep an account of all dealings and shun agents, especially of the Bohemian oat class. That successful farming does not consist alone in the many dollars gained and put out to interest, but in what is used to make pleasant home surroundings, so that the boys and girls may think there is no place like the home on the farm.

A. Tooley, on "The preparation of the cornfield," said, first use plenty of fertilizer, sod ground preferred, plow not too flat to the depth of seven or eight inches, use crusher before and after drag and plant three feet eight inches apart each way. Adjourned to meet with Mr. and Mrs. Wm. Tooley June 4th.

MRS. M. E. DUNNING, Cor. Sec.
Livingston Co.

SOUTHWEST VERNON FARMERS' CLUB.

May meeting held at the home of Mr. and Mrs. D. Williams. Association question for May was discussed and several members gave as their opinion that the Dairy and Food Laws were of great benefit to the farmer who tried to make a success in this line of work, since the laws are, or should be, a protection to his products against impure and adulterated food.

In speaking of "Woman's Rights," Mrs. N. West thought that in expending the proceeds derived from the sale of farm produce the wife should be entitled to an occasional piece of machinery for lightening her work as well as her husband. The average housewife possessed a mop and a wash tub, but a washing machine or any other piece of machinery was looked upon as a luxury.

"Why are some farmers more successful than others?" brought out various ideas. One member said he thought some men would be better off financially if they sold their produce when they could get a fair price than to keep waiting for a higher price and be obliged to take what they can get as a last resort, be it much or little. Another said he thought it did not pay to watch the successful experience of others hoping to meet with the same good luck, as he would almost invariably fail.

"Which pay better, hens or cows?" was answered by the majority in favor of the hens. Mr. and Mrs. George Caruthers entertain the June meeting.

Shiawassee Co. M. VAN., COR. SEC.

HOWELL FARMERS' CLUB.

At our April meeting the rural school question was discussed. The general idea was that the present system is a grand one, although not beyond improvement. No one advocated the township unit system, while some viewed that system with a suspicious eye and regarded it a scheme to control the education of our children along certain lines that would be detrimental to the great mass of the American people while enabling the would-be ruling class to obtain still greater advantages. It was the unanimous verdict of the club that all property should share its equal burden of taxation. Resolutions were adopted endorsing Governor Pingree's efforts along this line and requesting our representatives to vote for the measure.

The most important from the question box was, "Should the United States pay their coin obligations in gold?" This provoked a lively discussion. Two ardent admirers of the Rothchild system of finance thought they should, until others said that at the time of issuing these bonds we had an open mint coining standard silver dollars, and that the contract called for the payment of the bonds in coin, either gold or silver, and that it was justice and equity to pay our obligations according to contract.

MRS. R. R. SMITH, Cor. Sec.

Livingston Co.

NORTH VERNON FARMERS' CLUB.

Club met May 4th with Mr. and Mrs. A. Cole. J. J. Patchel and Floyd Owen gave a brief account of the county organization of farmers' clubs. Mr. Owen was elected as a director in such organization to represent this club.

The club question, "Would the repeal of the farm statistics law be a benefit to the farmer?" was led by Burt Potter, who thought it would not, and that it should not be repealed until a better law had been placed in its stead. That the farmers should be willing to give the required reports, Peter Patchel thought a farmer ought not to be required to tell his business any more than any other business man, but in order not to have these statements given we would be obliged to enter into a combine with the threshers. J. C. Curtis thought the

farmers should support the law and be willing to live up to its requirements. S. C. Patchel said the farmers are not the only ones required to report. Bankers, railroads, etc., are required to make similar reports, which are published. He could not see any reason for shutting off this line of information. J. J. Patchel thought it might be all right if we were living in the time when the lion and the lamb lie down together, but not until then. The question box brought out the opinion that the fall is the best time to paint buildings, as the pores are then all opened by the preceding hot weather and thus the paint will be absorbed. That the best general purpose farm horse is one weighing from 1,200 to 1,300 pounds. "Does it pay to top-dress ground in the fall?" brought forth differing opinions. T. Cooling thought it gave better results than plowing under for the present crop, the object being the heating of the dressing and thus destroying the weed seeds. F. Owen thought just the reverse, that the seeds would all come up.

"Housework not Drudgery" was the subject of an excellent paper by Mrs. Owen. She said: We often hear it said "Order is Heaven's first law." This is the real secret. Where order and neatness prevail and the work is systematized there is no drudgery. We meet next with Mr. and Mrs. Peter Patchel.

STELLA DAVENPORT, Cor. Sec.
Shiawassee Co.

MERIDIAN FARMERS' CLUB.

Our May meeting was held at "Locust Home," with Mr. and Mrs. R. M. Cross. The Food and Dairy Law was discussed. J. B. Morrison thinks the law a good thing. Under it the Commissioner has the right to inspect every article of food for sale and demand that it be plainly marked so that the purchaser shall know just what he is getting. A. H. Warren thinks the law affects the farmer more in proportion than the manufacturer, as adulteration can more readily be detected in butter, cheese and vinegar than in spices, etc. E. DeCamp thinks the Russian way of requiring everything to bear the government stamp the correct way.

Mrs. J. Woodworth read a fine essay on "Influence." All influence, whether conscious or unconscious, is eternal. Every one has a sphere and an influence. Different methods of raising and harvesting corn were thoroughly discussed, each farmer having his own method, which he preferred. The Board of Trade was discussed with animation. Some thought it a perfectly legitimate business and of great benefit to the farmer, while others thought it dishonest and a cause of ruin to men.

E. Swartout was appointed director to meet with county officers at their next meeting. June meeting to be held with E. DeCamp at Elmhurst.

MRS. J. B. MORRISON, Cor. Sec.

Shiawassee Co.

WHITE LAKE FARMERS' CLUB.

Regular meeting at the home of Mr. and Mrs. J. E. Voorheis, May 7th. Association question was opened by E. P. Flower. The present Commissioner was eulogized for the work he is accomplishing toward the enforcement of the food and dairy laws. The farmers are interested, both in their desire to obtain pure articles of food and to know, if substitutes, what they are. Also for the reason that all substitutes take away the market for the same amount of pure articles. Jackson Voorheis: The Commissioner should enforce the laws relating to the sanitary condition of barns and cattle, and do all he can to stamp out that dangerous and dreaded disease, tuberculosis. W. E. Clark: Our duty is to support the Commissioner in his work to such an extent that it will be effective.

At the close of the discussion the following resolution was adopted: That the White Lake Farmers' Club sanction what our Commissioner has done and is doing in enforcing our pure food laws, and would extend to him our firm support and encouragement.

The discussion of poultry raising brought out the following points: Feed young turkeys wheat mixed with corn, bread and milk or Johnny cake, but no raw meal. For cholera give condition powders or white oak bark tea.

What policy should the United States maintain toward Cuba? The present policy should be to assist in the freedom of Cuba. The future policy should be to allow the Cubans to form a government of their own choice and protect the island from any foreign foe.

Next meeting June 4th with Mr. and Mrs. John Beaumont.

Oakland Co.

J. J., Cor. Sec.

NORVELL FARMERS' CLUB.

At the meeting with T. B. Halliday, April 30th, "Our Rural Schools" came in for much more of praise than of censure. Mrs. C. P. Holmes led in the discussion. She suggested that the rural teacher knew far more of the personality of the pupil than the city teacher can, and so has greater power of influence. Country pupils are trained in habits of industry, in school and out. Among the needs of country schools were mentioned, better ventilation, often better lighting and more attention to color, larger libraries, more attractive grounds, more visits from parents and school officers, more interest in the annual school meeting. Of the general discussion four points may be given; Mrs. Randall said: Having a good teacher keep him as long as possible. Ours has been with us five years. C. P. Holmes thought that with teacher known to be good, the matter of wages was a secondary consideration. Pay anything in reason. J. S. Flint would have the school visited on appointed days. It does the school good to get ready for a visit. T. B. Halliday would have the parents aid their children in their studies at home in order to keep in touch and sympathy with the pupils, and because the parents' help will occasionally have a more practical bearing than the teacher's.

The present system was characterized as the best we ever had and our schools are better now than ever before.

Jackon Co. A. R. PALMER, Sec.
NOVI FARMERS' CLUB.

Club met at the town hall April 30th. A constitution and by-laws were adopted. The raising of sugar beets was discussed. D. Gage thought it unwise at present for farmers to engage in the business. Better wait for results of this year's experience in other localities. This opinion prevailed. Questions: Should butter be washed? After a heated discussion by the ladies it was decided that good butter could be made with or without washing. How shall the knot be taken from plum trees? One had used pork brine with good results, throwing it around the tree. Others had been particular in cutting them out, thus getting rid of them. Mr. Stark, the school teacher at Novi, was then called upon to open the discussion. "The weakest element in our rural schools." In a very interesting paper he expressed the opinion that parents, school officers and teachers should all be in unison. The officers should exercise the greatest care in the selection of teachers and not hire them simply because they are cheap. D. Gage said: We need better schools now than at any other time in the world's history. Best results can only follow best plans, therefore unity must be had. We ask the schools to give us good men and women.

Four new members were added, making a total of thirty-four, and two new subscribers were secured for The Michigan Farmer.

Next meeting at town hall May 28th.
MRS. S. C. TAYLOR, Cor. Sec.
Oakland Co.

FLOWERS AND MUSIC.

"Is the cultivation of flowers and a taste for music of any benefit to the farmer's family, physically or morally?"

"To me it seems there can be but one answer to this question—of course it is. I have scanned very carefully the wording of this question. 'To the farmer's family,' it says. Evidently it is taken for granted that flowers and music may be of benefit to certain classes of men but a doubt is implied if they be to farmers. Such distinctions always grieve me. Are we to be denied the refining influences of life just because we are farmers? Perish the thought! If we are so denied it is our own fault, for the occupation does not make the man; the man makes the occupation. 'A man's a man for a' that.'

"Physically or morally." Here an attempt is made to separate physical health from moral health. I know it sometimes happens that a beautiful soul is found in a diseased, pain-racked body. The fires of suffering have burned away the dross and left only the pure gold of a sweet, serene spirit. Nature is ever thus exclusive; we can lay down no hard and fast rules for her, but, as a general rule, it may be safely said that physical health and moral health go hand in hand. Whatever is conducive to the one is conducive to the other and there is no greater blessing on this footstool than a sound mind in a sound body.

Flowers are certainly an aid to

physical health. The care of a flower garden necessitates digging in the dirt (the healthiest exercise known) and the breathing of fresh, pure air. I firmly believe that many a weary farmer's wife, heartsick and discouraged at a never-ending round of toil, might be lifted into a purer air and a broader view by only a half-hour each day of such exercise. If she can rouse within herself a love for flowers and for their care, the cross word may go unspoken, she may forget to frown and, when Mrs. Smith comes to call, in her enthusiasm over the last new bud, they may both forget to gossip about Mrs. Brown.

I often think the influences that affect us most are those of which we are least conscious while they surround us. We never properly appreciate a thing till we lose it. That's human nature. The family owning a piano, organ or violin, and whose habit it is to gather often in music and laughter, may think very little about it. It is when the boys and girls are grown and go out into the world, often among strangers, far from home and friends, that the influence counts. Some fragment of a song may fall on the ear of a thoughtless boy and, in a moment, it all comes back to him—sister at the piano, father singing bass, the firelight flickering on the wall and mother looking on! Statistics about corn and wheat, oats and potatoes do not move him, but some day he sees in a florist's window a great mass of sweetbrier. Like a flash he sees again mother's roses and the old farm home and mother herself, and a lump comes up in his throat and the day is made sweeter and better. The boy or girl going out into the world with such memories as these is armed with the strongest safeguards against evil that can be devised.

True, there are some to whom flowers make no appeal. They calculate, instead, how many bushels of potatoes the ground would produce.

"A primrose by a river's brim,
A yellow primrose was to him,
And it was nothing more."

There are others who are tone deaf. Music to them is only sound. They cannot distinguish "Yankee Doodle" from Beethoven's "Moonlight Sonata." They are not to be laughed at but to be pitied, for they have missed the source of the purest and sweetest joys of life. It is true that a love of the beautiful must be born in a man but so often this inherent love is starved out, for there is a starvation of the soul that is just as keen and real as any starvation of the body. We all need to know there is another beauty in a wheat field besides the grain it will produce. The bloom of the thornapple is far sweeter than the fruit.

We Americans are eminently a practical people. Our first thought is always "Will it pay?" Will flowers and music pay? Yes, a thousand times yes. Pay in purer lives and broader views, sweeter memories and tenderer sentiments. Do not mistake me as defending "sentimental nonsense." With that I have no patience, but true and tender sentiment the dearest possession we can own. Surely it "pays" to develop the finer portions of our natures, to gain that indefinable something that stamps the man of high ideals.

Flowers and music "pay," too, in consolation. I care not how happy your homes may be, how much of joy and love and comfort may surround you, there must come to you as to every one, times of doubt and depression, of pain and grief; times when the battle of life seems going against you and every nerve and fibre of your being must be strained to hold a brave attitude in life. At these times our loves and our talents are our comforts. In music we may find expression for every varying mood. In our gardens we may dig graves for our griefs and bid them rise in flowers to cheer and comfort.

H. M. C.

HOW A FARMERS' CLUB STRIKES A VISITOR.

We had the pleasure of attending the farmers' club held at the residence of Supervisor Edwin Henson, of Emmett, Calhoun Co., April 6th, and never enjoyed a day better. The program was simply delightful and well carried out. One member exhibited specimens from China which attracted much attention. The children were not forgotten in the making up of the program, and none acted their part better. The ladies had their own question for discussion, and demonstrated their ability to handle it successfully. The question for the men, "Do Sheep Pay the Farmer?" brought out the

practical statement from our host that a flock of 60 brought him a gross income of \$5 per head on the average; that sheep would live and do well on coarse fodder that other stock would not eat; would even keep down young sprouts on new ground. This was the first club meeting we ever attended, but hereafter we shall not fail to utilize the advantages of these gatherings.

Calhoun Co.

C. L. HOGUE.

WITH REFERENCE TO PRESIDENT AVERY'S INQUIRY.

To A. Avery, President of Jackson County Association of Farmers' Clubs:

You ask, "May not the meeting be made to supply the place of the institute?" Mr. Avery, what kind of a man are you? Can you not see that if Jackson county should get up something that would take the place of the institute and it should prove a success, other counties would soon follow suit, and in a little while the ring around the M. A. C. would be out of a job and the \$11,000 appropriation would not be used. Rash man, you are.

Hillsdale Co.

G. CARLETON.

Veterinary Department.

Curb.—What shall I do to remove a curb from hind leg of three-year-old colt?—A. D. M., Olivet, Mich.—Clip hair off and apply caustic balsam once a week.

Thrush.—My five-year-old mare is sore in her fore feet. They swell badly; frogs are decayed.—F. J. B., Pustlin, Mich.—Your mare has thrush. Cut away all diseased frog and sole of foot. Apply calomel to parts that discharge, twice a day. A run to grass will do her good.

Gapes.—Will you inform me what to do for my chickens; they are five weeks old and have the gapes. I take good care of them but they are not doing well.—K. B., Lawton, Mich.—Disinfect your chicken coop with zenoleum and clean it thoroughly. Give one drop zenoleum in a teaspoonful of

water three times a day. Bathe their heads with the same mixture, one part zenoleum to fifty parts water.

Warts on Udder.—I have a heifer due to come in May 26. She has a number of large warts on her teats. How can they be taken off, and would it be safe to do so at this time?—E. R., Littlefield, Mich.—Remove them with a knife and apply tincture of iron once a day. She will take no harm from having them removed at once.

Osteo-porosis (big-head).—I have a horse that has what horsemen term big-head. The bones of lower jaw are thick and he is stiff and sore.—A. W., Lansing, Mich.—Osteo-porosis is a diastetic disease brought on from feeding too much concentrated food. Drugs do but little good in such cases. Turn him to grass and he may get partly well. He will never be entirely well. The bones will remain thickened. Feed no grain.

Sitfast.—Mare, seven years old, has large hard bunch on near shoulder. Has been there a year. Treated it as a gall at first; later as a collar boil; thought it would get well last winter after fall's work was done. It did not. Took her to a veterinary surgeon four weeks ago. He pronounced it a sitfast, and ordered a very strong smelling liniment rubbed on night and morning. Also to use a sweat pad with a hole cut in it to help relieve pressure on bunch. It did her no good. Went to see veterinary surgeon again and he made an ointment or salve, very blue in color, and ordered it rubbed on night and morning. It has not helped her at all. Bunch is hard and seems to be grown fast to shoulder; is about three inches in diameter, and has a raw spot about 1 1/4 inches across. My plowing will probably be done by the time this is answered in The Farmer, but will be obliged to use her more or less till fall. Have I got to have it cut out to cure her?—T. W. S., Orleans, Mich.—Medicine applied will do no good. A surgical operation will prove successful in relieving her and make her permanently well. After tumor is cut out wound will soon heal.

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Miscellaneous.

THE LOVER'S QUEST.

BY ERNEST GLANVILLE,
Author of "The Lost Heiress," "The Fossicker,"
"A Fair Colonist," "The Golden Rook," etc.

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(Continued.)

"You're a fraud," she said, suddenly, eyeing him severely. "Don't suppose I didn't see that smile. Confess now that you have no sorrows, that you look at the sea for hours out of sheer idleness, and you mope about alone because you are too lazy to think. Half the women on the ship think you are in love."

"I am sure I am honored—"
"Stuff. You are not honored in the least. We must talk about something, but I am sure I would be ashamed to seek sympathy in the forlorn guise of a rejected suitor."

"So I am in love and I am rejected," he said, with a laugh. "And yet you wonder why I am sad."

"Pardon me, I said you were lazy."
"It is about the same, is it not? Love and laziness go together."

"What a horrid sentiment!" she said, and withdrew to the sitting-room to assure the gossips that the melancholy passenger had neither romance nor imagination upon which assurance they quietly ignored him. At Aden, six days after, he said "good-bye" to the little lady.

"You said I had no romance," he said, as he looked down into her sparkling face. "You will be surprised that I am going into Africa on the forlorn hope of meeting once more someone I love a great deal."

The little lady's eyes went very big.
"Is she black?" she said, in a whisper.

"She is as fair as you," he said, with a sigh. "I only met her once, and I don't know if I shall see her again."

"Oh, why didn't you tell me?" she said, gently, studying his face with a new interest. "You must find her; but of course you will, for you will never draw back while there is hope, will you?"

"No," he said.
And when his goods were transhipped, and he put away from the arid coast, she waved her hand to him and cried, "Good luck, and a happy meeting."

CHAPTER II.

From Aden, Venning took passage in a coasting steamer to Zanzibar, and when the steamer anchored off the island, and a swarm of boats put off to her, he searched eagerly among the few white men for the tall form and dark features of Mr. Sterndale. There was no one, however, he recognized, and he was assuring himself that Mr. Sterndale would after all remain ashore, waiting for the report of the firm's agent, when a hand was laid on his shoulder.

"Mr. Venning, I believe?"
"Yes," he said, turning and finding himself face to face with a stranger of great stature, with black curling beard, and a complexion so dark that it was almost coffee-colored.

"You are the agent for Lorimer & Co., and have a consignment of goods for delivery against the prepaid order of Mr. Sterndale."

"To whom have I the honor of talking?"

"I am Mr. Sterndale's representative. Are the goods on board?"

"I should prefer to report to Mr. Sterndale personally," said Miles, resenting the manner of the big man, which was abrupt and overbearing.

The stranger produced a letter authorizing the bearer to receive the goods, and signed Mark Sterndale.

"Is there any reason why I should not see Mr. Sterndale?" said Miles, after reading the letter and comparing the signature with the original order, which he produced from his pocket-book.

"None whatever," said the stranger, with a laugh. "Only he is not here to be seen. The letter of instruction to you is sufficient, I suppose. I would like the goods delivered at once, I have spoken to the first officer, and he has agreed, on receiving a word from you, to off-load at once. That is my ship," and he pointed to a craft which was already tacking under sail to come alongside.

"It appears, then," said Miles, as he noted the size of the craft, "that the goods are not for Zanzibar."

"That is no business of yours," was the rough answer.

"I am not so sure," said Venning, calmly. "I must have a guarantee that these weapons are not to be used against the British, and that you are a fit person to receive them."

The stranger was about to make an angry rejoinder, when the first officer came up.

"About these cases, Mr. Venning, may I swing them over as soon as that craft's alongside?"

"Not just now, please; there is a slight difficulty to be settled."

"That's awkward. They are blocking the way, and we must be off in three hours."

"There's a short way out of this," said the stranger, gruffly. "Let Mr. Venning step on board my boat and keep guard of his precious goods while I go ashore to fetch someone who will vouch for me."

"How will that do, sir?"

"I suppose I must be satisfied."

"Either that or I must carry them on to Durban."

"Are arms usually delivered in this haphazard way?"

"Lor! bless you, yes. We make no bones, I assure you, about getting rid of 'em any more than we would about spirits, which are a long sight more deadly to the niggers."

"All right," said Miles, "I agree."

"Forward there," said the mate. "Look alive with those cases."

"Now, you lubbers"—this to the men in the craft, which was scraping the ship—"fend her off. Where d'ye come from, that you don't know enough to put out buffers? A lot of half-caste Portuguese beach tramps," he muttered to Venning, as the stranger went off to go ashore.

Miles looked over the side down into the boat, which was a craft of about 200 tons, carrying one sail, and manned by an ill-looking lot of colored men quite unlike the Zanzibaris.

The cases were swung out and lowered into the ship's hold in the quickest time, and long before the stranger returned from the town Venning, seated on his own luggage, was watching the steamer making out of harbor with a feeling of despondency, not at all diminished when he noticed the crew were preparing as if for a voyage. He had leisure to study them at near quarters, and the first bad impression he had of them when looking down from the deck of the steamer, was, if anything, intensified. Not only were the men dirty and ill-looking, but they smelt horribly of spirits, and in a jargon of Portuguese made insolent remarks about him amongst themselves, which, though he fully understood the drift of, he fortunately ignored. For, presently, he heard two men, who appeared to have some authority, make a reference to Tette, which he well knew was a Portuguese outpost on the Zambesi.

"No, my friend," said one. "I go no further than Tette. Stoffel—may he be cursed—can do the rest himself. He likes too well that others should take the danger."

"Yet he pays well."

"What is good pay if the body cannot enjoy the spending? No, for my part I am done when this voyage is over. I will marry and rest. There are three girls I can buy with a musket, and it will go hard, my friend Jose, if some of these do not find their way to my lodge," and the man kicked one of the cases.

"I hear that Stoffel himself—may the devil take his soul—will have another wife."

"Well, he has the means here to set up a home wherever he goes, and take to himself as many wives as a black chief."

"It is not a black girl he is thinking of, if what I hear be true. Where think you he will find a sale for these guns—among the Arabs?"

"Not so, friend—but what matters, so that we get our share? Let us stand in with Stoffel—may his children be crooked!—and it would be an easy matter to upset a boatload at some likely spot we know of on the Zambesi."

The two rascals clasped swords on their bargain, and fell into a talk on their future plans, while Miles wondered whether Stoffel, who appeared to be the greatest rascal of all, was the stranger for whom he was waiting. The longer he thought over the matter the deeper grew his conviction that there was some dark mystery underlying the whole business, and he was resolved that he would not give up the goods unless thoroughly satisfied. But he forgot that he was alone.

It was not until close on dusk that

the stranger climbed on board from a small shore boat, and his first word was an order in Portuguese to the crew to weigh anchor.

"What is the meaning of this?" said Miles, angrily.

"The meaning is, sir, that I am about to sail."

"Where to?"

"That is my business. Is this all your luggage? Over with it into the boat on the sea," he shouted, "and," he added, turning on Miles with a scowl, "over with you."

Taken completely by surprise, Miles stood silent.

"Clear out," said the stranger, taking a step forward, "the ship is mine, and the cargo also."

"But," replied Miles, steadily, "you went ashore on a distinct promise made to me."

"I went ashore, sir, to clear the ship and pay harbor dues, and that I have done. You have no further business with me, nor I with you, thank heaven! Shake out the sails, you lazy hounds."

"Before I go will you tell me who Mr. Sterndale is?"

"I'll see you damned first. Let go the boat's painter. There goes your boat, sir, and you'll have to jump."

"You brute," said Miles. "If I had my way I'd not let you have a single rifle; and I'll take care to warn the coast officials and slave catchers."

The man who had unloosed the painter still held on, when the stranger snatched the rope from his hand and threw it overboard.

"There," he said, turning to Miles with a laugh, "you'll have to swim now."

For answer, Venning stretched the man out, big as he was, with a straight blow, and springing to the wheel put the ship aback, and calling to the boatmen to come alongside, slipped down just as the stranger rose to his feet. Flinging a word to the crew, the big man went to the side, wiping the blood from his face.

"That was smart," he shouted, in an admiring tone. "Deuced quick! I didn't think you were up to such work."

Astonished by the friendly tone where he had expected a volley of abuse, Miles shouted back an apology, and then once more tried to get information of Mr. Sterndale.

"Oh, no," said the other, "that is not my style, my friend. Well, so long."

The ship went round, and very soon was a black smudge in the deepening gloom, while Venning, feeling very crestfallen, was rowed to the landing. As he stepped ashore, he was greeted by an Arab trader whose white dress gleamed out of the darkness.

"I am honored, sir, Mr. Venning, if you will accept of the hospitality of my house. Mr. Stoffel did warn me of your honorable coming, and I have long waited to receive."

"Oh," said Venning, with an unpleasant recollection of what the Portuguese sailor had said of this man Stoffel. "And who are you?"

"I am by name among the people Abdol—though such is not my title distinctly, or by merit of birth."

"Thank you, Abdol, I will go to your house."

"You have honored my residential abode, sir." Then in Arab the obsequious trader gave a sharp command to the boatmen, who hoisted the luggage to their heads. "This way, if your honor permits me to lead, for the way is dark and rough."

Venning fell behind the white figure and wondered whether, at the back of the trader's natural greed for custom, there was any ulterior design by the man he called Stoffel. He had felt, when the Arab so readily mentioned Stoffel's name, that chance or design had placed in his hand a clue of some sort concerning Mr. Sterndale, and hence his prompt acceptance of the trader's invitation. As he followed, he almost instinctively fell into the alert habit he had acquired in South America, and, like a man accustomed to danger, concentrated his faculties on his immediate surroundings. For the time, he completely banished all thought of his disappointment and simply used his eyes.

And first, he noticed that the trader had altered his gait from a short shuffling step to a swinging stride, and that now and again he suddenly lifted his chin and broadened his shoulders. "I swear," said Miles to himself, "that man has been a soldier."

Again, he noticed that his guide avoided the more crowded parts of the town, and that they had entered a quarter, populated apparently by men in white, who stood here and there in

silent groups, which as silently dispersed as they passed.

"I perceive you have many followers, Abdol," he said, aloud.

"Followers, my lord?"

"Yes, Abdol, men who await your coming, and disperse to a movement of your hand."

"Surely, sir, these men are but humble merchants like myself, and as there are bad men in the place, it is our custom to protect one another. They are here for your honor's security."

"Why did you not tell me of this before?" said Miles, and with an admirable pretense of alarm he turned to the porter's and very speedily withdrew a fine double Express from its case, fitted the brown barrels to the stock, and slipped in a couple of ball cartridges before the trader quite knew what he was about.

"My lord is quite safe," said the Arab, humbly. "We are timid men, and ready to see danger where none exists. My house is high on the land and away from the crowd. Therefore do the white lords who come here to shoot prefer it above the town dwellings, but if my lord would like to go back let him give the word."

"Go on," said Miles, gruffly. "If my friend Stoffel told you of my coming I am content."

"His commands were that I was to wait on you as I would on himself, my lord."

"He is often with you?"

"It is his pleasure to accept my service. We are almost there now. Behold the slaves with the torches."

A spurt of light appeared through the palms, and very soon they had entered, by way of a dark avenue, a bungalow thickly screened by foliage.

Miles was shown into a suite of two large rooms opening on to a wide verandah, and he had barely time to wash when a most appetizing meal was ready for him, backed up by a branch of yellow bananas, just plucked, and a dish of purple grenadillas and figs, neatly arranged in broad plaited leaves. He almost forgot his suspicions in the delightful sense of comfort and freshness, for the rooms, though lightly furnished, were sweet and clean, while afterwards the host appeared to enquire whether his guest had fared well; and when the two of them sat out on the verandah, the one with a cigar, the other with a hubble-bubble, there seemed no room to doubt that Abdol was not what he professed to be—a simple trader. It was, he thought, a good time to draw the trader.

(To be continued.)



There is too little preaching of the gospel of health. It is the last thing that anyone thinks of teaching, either to a man-child or woman-child. It is one of the most important branches of an education.

Without health, a man will be a business, and a woman a social failure. When the body of either a man or a woman is properly nourished, the result is the enjoyment of good health. Almost all ill-health is due to improper or insufficient nourishment. If the stomach is right and the liver is right, the blood will receive its normal supply of the life-giving elements of the food and the body will be properly nourished. Dr. Pierce's Golden Medical Discovery acts directly upon the stomach and liver. It purifies and enriches the blood. It is the great blood-maker, flesh-builder, nerve tonic and restorative. It promotes the natural activity of the entire nutritive organism. It puts an end to the slow starvation that is at the base of many diseases. It does not make flabby fat like cod liver oil, but firm, muscular tissues. It does not make corpulent people more corpulent but builds up the system to the normal standard.

"I was run down with nervous prostration and female weakness and kidney trouble," writes Mrs. Maranda Ramsey, of Smartt, Warren Co., Tenn. "My bowels were constipated. My whole system was wrecked. My friends thought I would die. I had read of Dr. Pierce's medical discovery and sent for the 'Golden Medical Discovery.' 'Favorite Prescription' and 'Pleasant Pellets.' In one week's time I began to sit up. In two weeks I could sit up all day, after being so bad that I had to be helped in and out of bed. I have taken four bottles of 'Golden Medical Discovery' and two of 'Favorite Prescription' and am in better health than I have been for years."

Constipation is the father of all manner of maladies. If it did not exist, or was in all cases promptly relieved, the majority of medical books could be safely destroyed. It is the easiest sickness to neglect and the simplest to cure. Dr. Pierce's Pleasant Pellets cure constipation every time. They cure it promptly, completely and permanently. They never gripe. They don't get you out 'o nights. One "Pellet" is a gentle laxative, and two a mild cathartic. Druggists keep nothing else "just as good."

To stick Rubber use Major's Rubber Cement. Beware!!! Take no substitute.

The Dairy.

We have a complete Dairy and Farm Creamery in constant operation on the Experiment Farm at Climax, Mich. This is personally conducted by J. H. Brown. All dairy correspondence should be sent to Climax, Mich.

SILO INFORMATION.

C. C. S. writes for advice regarding the building of a silo in his barn. Can build 29 ft. high. Shall he dig down three or four feet to give it greater depth? How would hollow building brick do for foundation? Shall he put the girths horizontally and cell up with single thickness, or set up studding and double board inside? How large a silo for 12 cows and 16 head of young stock? Can he utilize the hollow brick wall on the two sides of the basement of barn in building silo? What kind of corn should he plant? Is the Leaming all right? How large can a silo be and avoid partitions, with 18 head of stock to feed from it? Is bran, gluten and the like good feed to go with silage well eared? What is a good silage ration?

At the start do not dig down below the surface of the present floor for the sake of throwing silage up out of a pit. Make the pits 13 feet inside instead of 12, and get a storing capacity twice as great as digging down three feet would give, and the cost of building the silo would not be increased over \$2, and there would then be no "up hill" work in feeding out the silage.

We would not put in any foundation of either brick or stone, were we to build in a barn. We have none under our two silos built 12 years ago. In the barn we would make a square silo, put the girths on round and round, spacing a little more as they approached the top where they can be as much as three feet apart, but using more towards and at the bottom.

Level the ground on the basement floor and put the first girths flat on the ground, the next eight inches above, the next a foot, spacing a little wider each time, until above the center, where they can be much farther apart. Make the silo distinctly independent of barn and walls. Lap the ends of the girths and spike them well, and then cut a short board and nail across the corners. Cut it out in crescent form—a little—and when you cell up your silo, side up right round on this cross-piece, and make a "round corner" without any break or angle.

Use good Georgia pine to cell with, and flooring not over three inches in width. Make your "man-holes" small, door fashion, without hinges, and to take out on the inside. When the silo is completed make some good cement and pry up your silo, a side at a time, and drop it back into a good, liberal "mush" of cement, and then on the inside fill the angle where the walls and ground meet with cement and small stone, out into the silo a foot and up on the sides, and on the outside cover the sill completely.

Draw the soil from the center of the silo up onto the cement and pound down, and make the bottom quite kettle-shaped, fully a foot below the sills at the center. Do not cement the bottom, unless you fear rats coming up from below. A clay floor for a silo is preferable by far if there is no danger of surface water getting under.

Whenever your silo gets to decaying on the walls, then will be time to paper line and double cell; and then you will have a new silo. A stone foundation adds nothing to the value of a wooden silo, and you cannot join wood and stone together and make a No. 1 job without more work and cost than to run the wooden walls to the foundation, and it will never be so satisfactory as an "all alike" silo.

For silage one wants a corn that will ear well and have an abundance of sugar in the fodder, and that we have not got combined in northern corn, not even in sweet corn, which is pretty nearly destitute of sugar save in the ears, and when in the silo it goes towards vinegar acid, instead of lactic acid as it should. If you can get the regular Virginia field corn, such as the Fords used to sell in Ravenna, you would find a corn away up in growth of ears and sugar. Put in 10 to 12 quarts per acre, cultivate it very shallow, so as not to cut roots and set back earing and maturity.

One objection in having a silo in the barn, is the moisture arising from the pit in the heating stage. This is avoided by tramping down the silage on the top very hard, wetting thoroughly, and then sowing a bushel of oats on the surface, raking them in and re-tramp-

ing. The oats will grow rapidly, and take up the moisture about as fast as it comes up, and in a short time the upper inch or two of silage will be filled with roots—for they will not go down into the too warm silage—and then the tops drying make the final seal, and the covering is as perfect as anything yet devised.

When feeding in the winter, we think a covering of straw over the top of the silo, not silage, is valuable, as it keeps out cold air from above, prevents the silage from freezing in a cold "snap," and prevents the falling of fresh germs from the air in warm days, and one is not forced to feed so rapidly to prevent spoiling, though that never was a problem of "how to avoid" in our 12 years of silo experience.

The grains you mention are all right, but another matter to be avoided in the feeding of silage, well eared, to milch cows, is the overfeeding. The cow needs the corn silage, ears and all, to make bodily heat and fats out of (not fats in milk; no one knows their source). All the corn feed an average sized cow needs is to make 15 pounds of digestible starch, and two bushels of silage per day—50 pounds—is about all of that sort of food a cow needs, and to overfeed is to overtax the "stove" and does no good.

When one has a full fire in the cook-stove, and adds two or more sticks of dry wood, either the oven door has got to be opened or else the bread is burned up. So feed intelligently. On the other hand, do not overfeed of the proteins. Raise all of them you can in clover, peas, and the other legumes, and buy some bran, gluten and the like, remembering that good gluten is about three times stronger in protein than bran, and should be fed accordingly.

JOHN GOULD.
(It has always seemed to us better to build the silo outside of the barn, and thus save all the barn room.)

Then we should make a round silo, and build it of "staves," well hooped. We have examined several stave silos, built outside, and used farther north than the editor's farm home, and no trouble from freezing, and consequent loss of silage, was incurred.—Ed.)

FOREIGN CHEESE MADE AT HOME.

Very few of the diners at the so-called French and other foreign table d'hôte restaurants in the city, says an eastern journal, are aware of the fact that—head waiters and menu cards to the contrary notwithstanding—they eat American cheese, and not the imported article. But such is the case. New York, Ohio, Minnesota and Wisconsin dairies not only supply most of the home markets with "Camembert," "Roquefort," "Gorgonzola," "Stilton," and "Cheshire" cheese, but also a "Swiss" article, of which shoes can be made with as much safety as from the genuine Alpine product. And, as if to add insult to injury, a prominent cheese dealer said this forenoon that American manufacturers export French cheese to France and English cheese to England. And now a "Limburger" is being manufactured here which is so like the real German product that it would cause a migration of the native population if it were not carefully enclosed in air-tight packages.

According to this manufacturer, most of the "Roquefort" cheese is made in Minnesota and Wisconsin, while New York State dairies make most of the "English" cheese. The rich, odorless and yellow product, formerly known as "American" cheese, is now, like the motto of these United States, only one of the many.

As in many other industries, American dairymen are rapidly distancing foreign competitors. They have recently developed processes for "ripening" cheese, by which the time required is reduced to a minimum. The farmers of Jefferson county, New York, make in six weeks "Limburger" cheese that cannot be told from a genuine antique seven or eight months old.

"The business of manufacturing foreign cheeses," continued the dealer, "has grown to an industry aggregating about \$10,000,000 a year. The business is confined to certain localities, like beer brewing and the other industries that require certain climatic conditions and water of a peculiar nature. Thus Swiss cheese cannot be made in this country except in Wisconsin and Ohio, where the pasturage and water are just what it calls for. Roquefort can be made only along the shores of the Great Lakes. Farmers in St. Lawrence County, this State, turn out tons of 'Stilton,' 'Cheshire,'

'Parmesan' and similar cheeses. In other parts of the state are made Camembert and Brie. In England each kind of cheese is made in a different locality because of the difference in water and pasturage, and the same idea holds good here.

"This industry is something like wine growing," he continued. "The manufacturers, exporters and foreign importers are not at all particular about having the facts known. But tons of American imitations of foreign cheese go abroad monthly. The Roquefort caves cannot ripen cheese enough annually to supply the Paris markets, much less send it here. If any of this product comes to this country American cheese must be sent to France to make up for it. Roquefort cheese is sold at the caves for about 70 cents a pound. It costs at least \$1.50 a pound, including duties, to put that cheese on the market here.

"It is not to the discredit of American manufacturers that they should sell their products as the foreign article, because it is as good as the best the foreigners can produce, and, besides, the deception is aiding in the development of an American industry."

TUBERCULOSIS IN DAIRY CATTLE.

It is interesting to read the reports from the various experiment stations and state sanitary commissions regarding the experiments with and tests for tuberculous cattle.

The editor of this department is making an effort to collect all available matter emanating from the Bureau of Animal Industry and other sources, both in this country and Europe, that treats of this disease, and all experiments connected therewith.

Tuberculosis in cattle and other animals is identical with the disease of man commonly known as consumption. It may readily be communicated from man to the lower animals, and also from the lower animals to man. In the latter case the infection occurs principally through the meat and milk of diseased animals. Cattle are apparently more subject to the disease than are other farm animals. Statistics on this subject, although quite variable and in many respects unreliable, show that no country is free from the disease.

While the prevalence of this disease both in the human species and in the lower animals has long been well known it is only within comparatively recent years that there has been found in the so-called tuberculin test an accurate means of detecting tuberculous animals in the early stages of the disease.

This test has been studied by a large number of stations, and its value for diagnosis of the disease has been firmly established. The importance of this can hardly be overestimated in view of the widespread occurrence of the dreadful disease and the extreme necessity of reducing its ravages by destroying as far as possible all sources of infection.

The different degrees to which different grades or classes of animals are affected has recently been brought out by investigations by the experiment station in Minnesota, where, of some 13,366 animals subjected to the tuberculin test, native animals were found to be diseased to the extent of 7.8 per cent, high-grade animals to the extent of 10.8 per cent, pure breeds, 16.6 per cent; farm herds, 14.2 per cent (omitting 55 animals from two herds, 7.8 per cent), and city dairy herds, 10.4 per cent.

The animals in these tests were also graded with respect to the condition of the stables in which they were kept, with the result of showing that stable conditions are very important. Under good stable conditions 10.1 per cent (omitting 55 animals in two herds, 6.8 per cent) was affected; under fair conditions of stable, 7.28 per cent, and under poor conditions of stable, 19.1 per cent.

Similar results were obtained by a comparison with respect to the ventilation of stables, 9.5 per cent (omitting 55 animals in two herds, 5 per cent) being affected in well-ventilated, 6.16 per cent in fairly well ventilated, and 16.6 per cent in poorly ventilated buildings. In general these results are about what the laws of health would lead one to expect; but the existence of two badly infected herds where the conditions were most favorable to health shows that the disease may prevail even where a very considerable amount of care is taken in the way of

ventilation and general sanitary condition of buildings.

Such a prevalence of the disease is doubtless due to an introduction of diseased animals—it may be in efforts to improve the breed of stock—and emphasizes the fact that the breeder can scarcely be too careful in introducing animals into his herd. This is especially important in case of well-bred animals, which, as shown above, for various reasons seem to be more predisposed to disease than ordinary farm animals.

Statistics have been gathered which indicate that steers and bulls are less subject to the disease than cows, and calves less than older animals. In fact, it has come to be generally recognized that newly born animals are only rarely affected with tuberculosis.

In this connection the results of an investigation of 27 calves from tuberculous cows in Minnesota are very interesting. Of these 27 calves one died soon after birth and was found to be tuberculous, and two others, one fed by sucking the dam and the other on sterilized milk, became tuberculous. The rest were raised on milk from tested cows and upon sterilized milk, and at the end of the experiment were, as shown by tuberculin tests, in a sound condition. This gives a little over 11 per cent of tuberculous calves from tuberculous dams, and in only one case, or a little over 3.7 per cent, is there evidence of infection before birth.

In European experiments, of 67 calves fed on the milk of untested cows nearly 40 per cent became tuberculous, while of 100 on milk from tested cows less than 19 per cent became infected. In a later experiment with 78 calves reared on milk from healthy cows, 15 per cent became diseased.

These experiments encourage the hope that this disease may be gradually eliminated, not only from small herds, but eventually from entire countries by adopting the well-known method in which herds are divided into groups of diseased and healthy animals which are kept separate from one another, and calves from diseased animals are reared on sterilized milk or on milk from healthy cows.

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THE MICHIGAN FARMER

—AND—
State Journal of Agriculture.

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DETROIT, SATURDAY, MAY 21, 1898.

This paper is entered at the Detroit Postoffice as second class matter.

According to returns published by the United States Investor, the gross earnings of 33 railways for the first week in May were \$4,399,972, as compared with \$3,943,005 for the first week in May, 1897, an increase of \$446,367. Twenty-six roads show increases, and seven decreases. Since January 1 the roads referred to above earned \$79,618,785, an increase of \$9,716,543 over the \$69,902,242 reported for the corresponding period of 1897. For the longer period all show increases.

The men who thought the war was to be an affair of a few months begin to think it may last for a few years. As we said before it had begun, war always lasts longer than expected or deemed possible at its beginning. We look for a demand for at least 100,000 more men as nearly certain. There is but one thing to do now: stand by the government and the honor of the country. They are worth all it will cost to maintain them.

The impotence of many people, and especially of some editors, because the government has not organized an army of 100,000 men, driven the Spaniards out of Cuba, Porto Rico, and the Philippine Islands, and annihilated their navy, is a very good criterion by which to judge of their military knowledge. The organization, equipment and drilling of such an army is a matter of months, not days. Yet these impatient critics, who would be entirely helpless if the matter depended upon them, are sure the government and its officials are dilatory, and that if given the opportunity they could do much better. If within three months from the date hostilities were declared an army sufficiently strong for the purpose should be landed in Cuba, and another dispatched to the Philippines, it is as much, or even more, than could reasonably be expected, considering the conditions under which it must be accomplished. Every one—senators, representatives, governors, politicians, and editors—have plans matured which would surely wipe Spain from the map of Europe, and secure all her foreign possessions to the United States, and yet hardly one of them could march a regiment five miles or arrange for its subsistence. The less some people know of a subject the more glibly they can criticise. Knowledge would restrain them, the lack of it makes

them fools and braggarts. It is well for the country such men do not have the direction of affairs.

THE VALUE OF CREDIT.

The extent to which credit is used in the modern business world, and the fact that it is extending year by year so that nearly all commercial transactions are based upon it, renders the question of commercial standing a vital one to any one engaged in business. Credit extends with civilization, and is encouraged by such modern inventions as the railway, the telegraph, and the telephone, which all tend to bring people closer together, and enable them to secure information regarding the character and financial standing of those they do business with. Credit is based upon a belief in the integrity, reliability and financial responsibility of the party demanding it. If a man establishes a character for honesty and promptness in redeeming his promises, he can secure short time credit for small amounts from his business acquaintances, even though he has no property, but for longer time or for comparatively large amounts, he must have the third requisite—property. The extent of this credit is regulated by the amount of property he actually possesses and the character he has established in meeting his obligations. The necessity of such knowledge to the business man has led to the establishment of commercial agencies, whose sole business is to furnish such knowledge to those entitled to it. Every man who does a legitimate commercial business in this country has had his record investigated and he is rated in the reports of these agencies accordingly. If a manufacturer receives an order for goods from a new and unknown party, he turns at once to Dun's or Bradstreet's report and ascertains his financial standing, and so reliable are these agencies that he does not hesitate to govern himself by their rating.

But farmers are not usually rated in these reports. How are they to secure credit from those who do not know them? There is but one way—furnish the proof of responsibility along with the order. If he has credit at home this will be easy to do. If he has credit at his home bank, he can simply refer to that bank. This is the best way. Or he can get the endorsement of some reliable business man or concern that is rated by commercial agencies or has the necessary known financial standing. The manufacturer or dealer will be glad to extend credit if this evidence is furnished, and it is foolish and unreasonable to expect credit without it.

In all attempts made by farmers to get rid of the expense entailed by purchasing through agents and small dealers, the most serious obstacle encountered was the lack of credit on the part of the farmer. He was not rated by the commercial agencies and the manufacturer and wholesale dealer would not take the risk of his not being entitled to credit. They preferred giving credit to a party they knew, who in turn would know to what extent the farmer was entitled to credit. The farmer can obviate all this by establishing his credit in the manner suggested above, and then maintaining it by a strict observance of his contracts.

And credit is so good a thing that it is worth securing. It is nearly as good as money in the bank. Upon it is based all the great commercial transactions of civilized nations. It is the bank check that meets obligations, not actual currency. That bank check is simply credit—belief that it will surely be paid when presented at the bank upon which it is drawn. The average

farmer has never availed himself of its advantages, to any extent, yet he could frequently use it to his material advantage.

CROP CONDITIONS IN MICHIGAN.

The season in this State, which promised to be a very early one a month ago, is held back by continued low temperature and a lack of moisture in the soil. While the lack of rain has held back vegetation, it has enabled farmers to get through with their spring work. But heavy warm rains are needed to start vegetation forward, and to warm the ground for later spring crops. Whenever a warm day occurs its effects can be seen at once, but they have not been frequent enough the past three weeks to count much. Besides, we have had very cold nights, with several frosts, which, though not doing much damage, retarded vegetation. Barley, rye, and oats are about all in the ground, and preparations for corn and late potatoes are well forward. But the soil is not in condition for corn planting and will not be until it has been warmed by rains and hot suns.

So far as winter wheat and grass are concerned, conditions are very favorable. Pastures are generally good, and meadows promise well. The young clover shows up well, but is not growing as it should owing to the cold nights. Oats and rye will not be affected so much as other crops by the cool weather. Prospects are favorable for a good crop of wheat—it should be a better one than that of last season. It is too early yet to speculate on the outcome of spring crops, as weather conditions may change so quickly as to knock out all calculations. All that can be said now is that so far the outlook is favorable, and that work is being pushed forward very rapidly. The stimulus of high prices is putting new life into farmers, and the most chronic grumbler can find little to complain of in the general prospects for crops and prices.

A QUESTION FOR EDUCATORS TO CONSIDER.

In another column a correspondent discusses the question "Does education tend to promote morality?" His answer is in the negative, and he cites authorities to prove his conclusions. The whole article is worthy of the attention of everyone interested in the intellectual advancement of the people. With all the conclusions of the writer of the communication we do not agree; with the majority we do. For instance, we do not believe that education will make a dishonest person honest. It will be more apt to make him still more dangerous to the community in which he lives because of his increased knowledge. Neither do we believe that education will make an honest man dishonest. On the contrary, its tendency is likely to strengthen his integrity, by giving him a clearer perception of his moral relations to the community, and greater self-respect.

But we regard the moral tone of the family or community in which children are reared, as far more likely to control their actions in after life than the knowledge they may gain in the school room or the halls of a college or university. So long as the accumulation of wealth is regarded as the chief end of mankind, and its possession condones the means, no matter how disreputable and dishonest they may have been, by which it was acquired, just so long will the desire for wealth lead men to become dishonest. The church, college, seminary, or other institutions for the spread of morals and knowledge, if supported by gifts or bonuses from the possessors of ill-gotten wealth, are not in a position to attack

the means by which that wealth was acquired. It is quite common for successful dishonesty to share its ill-gotten gains with reputable public institutions to close the mouth of criticism, and give the donors standing with decent people. In such a case the students in these institutions are taught by example, always much stronger than precept, that they can be dishonest and yet maintain their standing in the community, if only successful enough to have secured sufficient wealth to give generously. They soon find that much is forgiven to the possessor of a million, and much more where he has four or five. The graduate of an educational institution is, therefore, tempted to use his knowledge to place himself in the ranks of the wealthy, no matter if the means employed are neither honest nor reputable. The educated man is subject to greater temptation than the uneducated, because he knows more, and if his moral training, both at home and in the institution of learning, does not keep pace with his advancement in knowledge, he is likely to be more dishonest than if left uneducated. It is absolutely essential, therefore, for the good of the individual, as well as the community, that morality should be inculcated, both by precept and example, in the minds of the young, and lapses from it in the case of prominent and wealthy people, should be punished much more severely and surely than they generally are in these modern days, when the power of the almighty dollar is felt so strongly in all the walks of life, and can even be used to secure immunity from detected crime.

GLADSTONE IS DEAD.

The cable, on May 19th, brought us word that William Ewart Gladstone died on the morning of that day. Born in December, 1809, a prominent figure in public life in Great Britain since his early manhood, Mr. Gladstone linked the past with the present as no other man living does. The United States had only been an independent nation about 30 years when he was born, and Napoleon Bonaparte was the central figure in European politics. During his lifetime he witnessed the innovations brought about by the use of steam, the development of the telegraph, and electricity. He has had much to do with shaping the course of the British government during the period of its greatest development, and for forty years was a central figure in British politics. He was a member of several cabinets, was at four different periods prime minister, and his parliamentary career extended over half a century.

While eminent as a statesman, and giving so much of his time to public affairs, Mr. Gladstone was well known as an author. His ideas on government were always liberal, and became more so as he advanced in age. He held first place in the regard of the great mass of the middle and lower classes of Great Britain, for whose welfare he worked unceasingly. He opposed the policy in late years of increasing the extent and number of Great Britain's colonies, and made the mistake of withdrawing the British troops from Egypt and allowing that unhappy country to be overrun by barbarians, who had to be driven back at the expense of many lives and enormous sums of money.

In his later years Mr. Gladstone showed a friendship for the United States, but during the war of the rebellion he was opposed to the North, and hoped to see the Union broken into fragments. He seemed to fear that the United States was likely to become so strong as to be a menace to the peace of other nations. He lived to

reverse his opinion, and to appreciate the position this country has taken in refusing to be led into ambitious schemes for national aggrandizement at the expense of weaker neighbors.

Mr. Gladstone leaves behind him no statesman in Great Britain who is able to fill the place he held so long among her people, or is his equal in ability, breadth of view and experience. He will always be regarded as one of Great Britain's greatest statesmen.

Charles W. Spaulding, a year and a half ago president of the Globe savings bank at Chicago, and at one time treasurer of the University of Illinois, was sent to the penitentiary at Joliet on Saturday last on an indeterminate sentence of one to fourteen years for embezzlement. A few more such convictions will have a good effect upon bank officials, and add to the stability of banks. In this connection we note that a person who wrecked a national bank in this city, but escaped punishment through legal technicalities, was arrested this week, charged with securing diamonds from a jewelry firm on approval, and converting them to his own use. The bank wrecker is a dangerous man, and should always be treated like Charles W. Spaulding has been. It is the cheapest and safest way to dispose of them.

A PROTEST.

I notice in the discussion of Northern Michigan at the Round-up of the Farmers' Institutes that A. E. Palmer, of Kalkaska, suggested that we could not expect the best results from farming when the occupants of the farms were largely stragglers from the mining or lumbering camps. Also, Hon. Sybrant Wessellus repeats: "For the most part those who have taken up farms are stragglers from the lumber camps." We have lived in Northern Michigan, Missaukee Co., for twenty years, most of the time on a farm, and in all that time I have never known a case of a typical "campman," as we call them, taking up and improving a farm—becoming a farmer. The people of the lumber camps are a class by themselves. Of course some of the settlers on new farms work in the camps during the winter; never after their farms become self-supporting, and plenty of farmers from the southern part of the State bring their teams here and work in the woods through the winter, going home in the spring, with a wad of greenbacks that they could not possibly have earned at their own homes, to abuse the country here.

The men who clear new farms and make homes in the northern woods are men of enterprise and energy, and of course some capital. The idlers and stragglers stay in the older countries. In their families we find just as much refinement and intelligence as in any farming community. Much of first-class literature in magazines and papers comes through our postoffice, for in our isolated lives reading must be our chief means of mental growth. We have also our well selected and much read township libraries. The people comprise several classes as in every community. We have the farmers who own from a quarter to a whole section, with fine farm buildings and all the improvements in stock and machinery. Then the farmers who make a living on an 80-acre farm and are comfortably fixed. This latter is the largest class. Then the new settlers and young couples who are starting farm life with 40 acres of woods, and who are not to be pitied, for though there are years of hard work, and possibly privation, before them, they are better off than the unemployed farther south.

I have always been very careful in answering any inquiries about the country, not to draw too bright a picture. I do not want to be responsible for anyone's disappointment, and would rather have them find it better than they expected. But if anyone hesitates to come because they do not wish to live where they must associate with these "stragglers from the lumber camps," I can assure them they need feel no anxiety on that score. In all the years we have lived here our only association with the camps has been to sell them loads of produce from the farm, and hand out a meal to an occasional campman who has

left all his wages at the saloons in town.

I remember thinking that the interests of Northern Michigan were in good hands when I knew A. E. Palmer was to speak on the subject. Now I wish I had gone down to that Round-up and told them just how it was myself.

Pioneer, Mich. HULDAH PERKINS.

For The Michigan Farmer. DOES EDUCATION TEND TO PROMOTE MORALITY?

It is generally believed, without a reason or an argument, that all education tended to make people more moral. I thought so myself for more than fifty years, but observation and statistics have forced me to change my mind, and take what I am sure will be considered the unpopular side.

Statistics are worth more than opinions, and I will proceed to give a few. The following record lately gathered from the courts of France, shows the following extraordinary facts. I copy verbatim:

First.—That 25,000 persons of the class wholly illiterate furnish five criminals.

Second.—That 25,000 of the class able to read and write furnish six criminals.

Third.—That 25,000 of the class of superior instruction furnish more than 15 criminals.

Fourth.—That the degree of perversity in crime is in direct ratio with the amount of instruction received.

Fifth.—That in the departments in which instruction is most disseminated, crime is greatly more prevalent—in other words, that morality is in inverse ratio with instruction.

Sixth.—That relapse into crime is much greater in the instructed than in the non-instructed.

There are two points in the above statement that deserve particular attention: First, there are three times as many criminals in the well instructed as there are among the ignorant. Second, that the relapse into crime is mostly confined to the educated. But some will say, perhaps, it is not so in this country, where education is more generally diffused. That is an important question for consideration. Mr. George T. Angell, of Boston, Mass., makes the following statement:

"The annual cost of crime in this country is \$200,000,000. It has more than doubled in the past ten years. Crime in Massachusetts is 33 per cent greater than in Ireland; and the great question now for all good citizens is, how are we going to stop this increase of crime? The education of the intellect will not do it."

There is one point of special interest in that statement; it is this: In educated Massachusetts there is 33 per cent more crime than in ignorant Ireland. It has been stated within the past two years a number of times, on apparently good authority, that in the past ten years crime has increased in this country 3 per cent more than the increase in population.

The United States census for 1890 states that the smaller crimes are committed by the uneducated, while the larger crimes are committed by the educated. To specify: The men who rob your hen roosts, steal your water-melons, pilfer your corn and potatoes from your field, lift the top rails from your fences, are, as a rule, illiterate and ignorant cusses, while the men who are bank-stealers, forgers, counterfeiters, safe-blowers, train robbers, dishonest clerks, and so on, are mostly genteel, educated gentlemen, and regularly attend church to maintain an irreproachable character.

If the crimes of the two classes are measured by the amount of property involved, the educated would furnish more than 100 times the most criminals.

Detroit may properly be called a model city in its educational and criminal departments. For the past ten years it has done all that was possible to improve its educational system. Well, the question is, how has it affected the criminal department? I will quote from a paper read at the Farmers' Association at Lansing some two years ago by one of the editors of the Michigan Farmer (Robert Gibbons). He said:

"Ten years ago the circuit court was presided over by one judge at a salary of \$1,500 per annum. * * * To-day there are five regularly elected judges, at salaries of \$6,000 each, and a part of the time the past year judges were drafted from other counties and paid the same salaries."

So far from education in Detroit lessening crime, it has increased more than four-fold, and the crimes seem to be of such an aggravating character, and are so wearing on the judges, that their salaries had to be increased \$4,500 each.

Lawrence McLouth, professor of the German language in the New York University, writes of education, in the December number of the Metropolitan Magazine, as follows:

"The widely accepted theory of uni-

versal education is ill grounded and dangerous, because it puts the spurs of ambition to the sides of those who have not got the mettle."

In other words, trying to make a fast horse out of a poor nag, or trying to make a great man out of a numbskull, or a whistle out of a pig's tail.

If education was the leading factor in promoting morality in a community, then the great centers of education would be the most moral and best behaved. Do the facts prove that it is so? Why, there is not a place in Michigan so undesirable to bring up a family as the rough and rowdy city of Ann Arbor. A number of years ago the students there considered it a special duty and privilege to clean out every circus that stopped there. One year, Forepaugh's show (I think it was) hired some twenty men, the toughest fighters of Philadelphia and Baltimore, to accompany them, having special reference to teaching the students of Ann Arbor a salutary lesson. Arriving at Ann Arbor, moral texts were inculcated among the men in the shape of placing pins, clubs, and such things, handy for use. The fight began early, but the battle was short, and ended by two or three students being killed and a score or more being seriously hurt. Under this moral lesson the students met with a sudden, radical and permanent change of heart, for they have not tried to break up a circus since. They turned their educated morality into another channel, so I quote from the papers of very recent date to that effect:

"At the Nansen lecture in Ann Arbor, some 400 bogus tickets were used. So at the lecture by Governor Bob Taylor, of Tennessee, December 3d."

December 31, 1897, the following report comes from San Francisco, Cal.:

Dismissed from Stanford—41 Idle and Dissolute Students Turned out of the University on Account of Debauchery.—San Francisco, Dec. 31.—Wholesale dismissals have been made at Stanford university for inferiority in college work, immorality and vulgarity. Forty-one students have been dropped. Many of them are the class known as bummers. They distinguished themselves by drinking, carousing and parading the streets of this city when their football team defeated the State University team on Thanksgiving day. They made themselves so offensive that their names were taken, and now they are paying the penalty.

Now, I would not be so mean as to insinuate that these two universities are not as respectable and do not do as much to promote morality as the average universities of the United States. I leave others to estimate how much they promote morality.

Allow me now to pay respects to the honorable legislators of the State of Michigan. You know we select the best educated, the most honorable and moral men in the community for that responsible position. Every legislature for the past ten years has been a "reform" legislature. It was going to do the State business promptly, economically, adjourn early, and thereby reduce taxes. But every legislature has run in the same rut. They hung around Lansing until the curses of the people drove them home. The last legislature increased taxes a fraction over 11 per cent. We know they broke their promises of reform, and it is well to ask, "How did they do it?" They spent the first six weeks either doing nothing or in boy's play that would disgust any business man; so I have been told by persons who were there. They introduced some 1,800 bills, many of them embodying rot and nonsense, and did not, and were not intended to, see the light again.

The people and the papers had denounced the junketing tours that all former legislatures had indulged in. The House of Representatives voted against it, but the Senate voted to a man to "junket," and one of them was a clergyman. How many senators went junketing I don't know, but the papers reported that those who did go to the Upper Peninsula came home by the way of Chicago and charged mileage by the round about way, and that the moral, educated, honest (?) Senate allowed the bill. Let me ask a question right here: Which is the most criminal; to rob the State, or a corporation, or an individual? An early reply is requested.

I have made a very cursory report to what might be said from the domain of secular education and politics. I will make just one picture from a theological seminary, as published in the Detroit Journal of Jan 13, 1898:

Lay Down Bible for Cards—Poker Said to Have too Great an Attraction for the Divinity. Students at Allegheny—Pittsburg, Pa., Jan. 13.—Poker playing among the students of the Western Presbyterian theological seminary, in Ridge avenue, Allegheny, has caused trouble in that institution. It has been reported to the faculty that many of the students have been burning midnight gas studying the

value of poker hands. The matter was reported to the faculty by a student who had been initiated and who lost money. The charges not only concern some of the students now attending the seminary, but several recently installed pastors of churches are involved. The faculty says that theology and poker will not mix, and that the card playing must be stopped.

I might multiply these examples almost indefinitely, but will not at this time. But I will indulge in some speculations as to causes.

First—Every person is born with three distinct sets of faculties—the animal, the moral and the intellectual. Each of these demand its own gratification.

Second—The animal faculties are usually born large and are stimulated to activity by contact with the world, while the intellect is enlarged by education, and the moral faculties are allowed to lie comparatively dormant.

Third—The natural consequence is the intellect and passions are constantly demanding gratification, right or wrong, while the moral faculties lie dormant, not being strong enough to keep them within the limits of honesty and morality.

Fourth—Honest and moral people are born so, like poets, musicians, orators, and great mathematicians.

Whether or not it is better for the civilized nations of the world that the masses should be comparatively ignorant, and consequently more moral; or be well educated, and as a result produce more criminals, I leave for the readers of this article to judge for themselves.

My 79 years' experience in the world constrains me to make the following statement: A person may have unlimited education; he may be (to all appearances) the most religious person you ever knew; he may, in joining a secret society, swear on his knees before God and man not to wrong the society or a brother; but if he is not born with the elements of honesty in him, he is not to be trusted.

Macomb Co., Mich. S. H. EWELL.

EXCURSION TO THE AGRICULTURAL COLLEGE.

Arrangements have been made for railroad excursions to the Agricultural College in August at the rate of about a cent a mile each way. The following is a schedule of the dates and the routes:

1. Tuesday, August 16, Michigan Central R. R.: From Wayne, Ann Arbor, Jackson and intermediate points, to Lansing and return.

2. Wednesday, August 17, Grand Trunk R. R.: From points east of Lansing on C. & G. T. R. R. to Port Huron; from Pontiac and points intermediate to Durand on D., G. H. & M., and from all points on C., S. & M., to Lansing and return.

3. Thursday, August 18, Michigan Central R. R.: From Bay City and intermediate points (also on Ann Arbor R. R. from points between Mt. Pleasant and Owosso Jc.), to Lansing and return.

4. Friday, August 19, Lake Shore R. R. (Lansing division): Hillsdale and intermediate points, to Lansing and return.

We hope that farmers all along the lines of these roads will plan to take advantage of these excursions. We suggest that farmers' organizations, in making dates for gatherings in August, try to have them come some other week than this one, so that all farmers living along these roads may be free to come to the College.

Last year 3,000 people took advantage of the excursions, which proved to be very popular and entertaining. Inasmuch as these excursions are from sections of the State not reached by the excursions last year, we anticipate even larger crowds.

Full announcements as to exact rates and time tables will be made in due season. Do not forget the dates.

The Trans-Mississippi Exposition at Omaha will be formally opened June 1. Gov. Holcomb has proclaimed the day a legal holiday in Nebraska.

The horticultural department of the Agricultural College has sent out to secretaries of institute societies and county horticultural societies in the northern parts of the State, about 2,000 young fruit trees. These are mostly Russian varieties new in this part of the country, and are sent out to be tested.

A New Hay Rake.



We herewith present a cut of a new side delivery hay rake, the "Keystone Chief," which is manufactured by the Keystone Manufacturing Company of Sterling, Ill. This new machine possesses more than ordinary advantages. No dumping is required; makes clean hay, taking up no trash, stubble or manure; the hay is not rolled over and over or "roped" as with the ordinary rake, but is left in a light airy windrow in nice shape for curing or loading as the wish may be; it rakes a space nine feet wide and leaves the hay in a continuous straight windrow. Write them for circular and prices before buying.

The Household.

CONDUCTED BY MRS. ELLA E. ROCKWOOD.

We should be pleased to have any of our readers who take an interest in household topics, send in their views and opinions upon any subject which is under discussion, or which they wish discussed. The invitation is general, and we hope to see it accepted by many. Address all letters for The Household to Mrs. Ella E. Rockwood, Flint, Mich.

INGRATES.

It is the fretting pebble in the shoe
That makes the journey seem so wondrous long;
We cannot see the lark in heaven's blue,
We cannot hear the robin's happy song;
All this we cannot do
Because of that small pebble in the shoe.

It is the petty failing of our friend
That makes us blind when we his life are shown;
We will not see the rose the children tend,
For on its stem a tiny thorn has grown.
"You should your life amend?"
With scorn we cry to both the rose and friend.

It is the voice for which we wait in vain
That spoils the chorus of the world's applause;
The praise it gives is like a sea in pain,
That beats upon insensate shores, because
Our hearts will only deign
To call that praise for which we wait in vain.

It is the one dear face we cannot see
That comes between our clouded eyes and heaven;
Others, perhaps, are fairer—only we
Want but the sight that to us is not given.
Lord, let us not lose Thee,
Because of that one dear face we cannot see!
—Flora L. Stanfield, in Chicago Journal.

HOME CHATS WITH FARMERS' WIVES.

THE FRESH AIR SCHEME AND ITS PROSPECTS.

For a number of years there has been considerable interest manifested by those benevolently inclined toward the poor of our large cities, particularly the children, during the hot summer weather when disease and discomfort walk hand in hand up and down the thickly populated districts where the poorer classes congregate. The Fresh Air fund has been liberally patronized, and hundreds of the city's poor are sent into the country every summer to enjoy a few weeks' outing, farmers' families co-operating with the officers of the society, and furnishing board and lodging free to those who are sent out.

This is a worthy and laudable undertaking and has been the means of providing a permanent home in the country for these little ones of the slums in more than one instance. And not only children but others have shared the hospitality of the farmer's home, sent at the instance of the same society. While in a majority of cases perfect satisfaction has been expressed all around, still occasionally the entertainers have felt that they were imposed upon. A letter from Mr. Kitchen, which appears in another column, gives his experience along this line.

There is much of truth in what Mr. K. has to say about farmers' wives entertaining the beneficiaries of the Fresh Air fund. His is not the first letter bearing upon the subject which has come to the Household editor's desk, nor is it the only one which has taken the view of the subject which he does. It has more than once been facetiously suggested that city outings might to good advantage be afforded the tired and overworked farmers' wives, who need an outing fully as much as the average fresh air guest. And who can question the pleasure to be derived from such a trip to those whose only knowledge of the marvelous sights of the metropolis with its big buildings, parks, museums and thousand and one attractions with which every large city abounds consists alone in what they have found out by reading! The truth is, very many farmers and their families are in as great ignorance concerning city sights, as far as visual knowledge goes, as the veriest slum resident is of the grass, the trees, the flowers and the cow that gives the buttermilk.

Now I do not wish to be understood as opposing anything in the line of charitable work, and no doubt exists in my mind that the scheme whereby poor children may enjoy a country outing is a worthy one; yet when it comes to clerks, typewriters, seamstresses and others who, as in the cases cited by our correspondent, earn for themselves a comfortable living, it seems as if it is asking rather too much of one already over-burdened with cares without the extra ones necessitated by such

an addition to her family. I fully agree with our correspondent that a much better plan of carrying on the work is the one described in the last paragraph of his article, where a cottage is rented and a matron employed to take charge of the guests. This scheme is carried out on a large scale by the proprietors of the Christian Herald, and every season hundreds of city waifs are thus entertained.

When it comes to adding unnecessary and oftentimes unappreciated burdens to those already borne by our farmers' wives, it is carrying the thing too far. Those who are situated so that they can in justice to themselves extend the hospitality of their homes to the deserving proteges of the Fresh Air societies should esteem it a privilege to do so; but not many can assume such a responsibility without considerable extra exertion, just at a time when every energy is strained to its utmost to keep up with the regular work of the farm house.

As to the children and the babies, no question arises as to the benefit derived by a country outing (nor does the question arise as to the benefit in any case to the guest), yet in justice to the entertainer let other classes be excluded, at least such as are perfectly able to take care of themselves.

HOW IMPROVE THE SOCIAL CONDITIONS OF OUR NEIGHBORHOODS?

This is a subject proposed for discussion in the Grange, and as I think it a worthy one will set the ball rolling by giving a few of my ideas upon the subject.

We all know that the Grange, literary societies, and reading circles are a help; but there is a work to be done outside of these. There are families who have very little reading matter, and that not the best. Can we not loan them good books and papers? We cannot tell how much good they may do. I like my books to be used. I think more of them if I feel they have done some one besides myself good.

I think many parents make a great mistake with their young people. They seem to think the younger ones need the more watchful eye, and neglect those just growing into manhood and womanhood. They are the ones needing the greater care. The older ones seem to think they are not wanted among them. If this is true it is their own fault. They are not wanted as spies and general managers, but I have failed yet to see a company of young people who did not enjoy having the older ones come among them to entertain and assist in their games. One who goes in with real interest is always welcome. They play games that are not for their well-being just because they don't know what else to do, and have learned them. Kissing games are neither wholesome nor innocent. Much valuable time is wasted, and often disease is communicated. Go among the young people with games to instruct. They like them. I'll tell you some of our games sometime if you like, and wish others would give theirs.) My parents always joined in our games when we had company, and I think all enjoyed them the better for it. It was a sad party for me when I first had to entertain my own company.

Girls are allowed to go with young men too young and too ignorant. They must know of dangers to avoid them. We know there are young people all about us who will never receive the instruction they ought from their parents. If those who are interested in such work can not induce the parents to give the proper instructions, or find them too ignorant, I think their next duty is to do the work themselves. Mary Wood-Allen's books, "Almost a Man," and "Almost a Woman" are great helps in this line. The boys and girls of to-day are to be the parents of to-morrow. The more virtuous we can get them to be the stronger the morals of the coming generation.

Much ill-health, too, would be prevented if our girls were properly taught, and our race would be stronger. Had I known the things I have learned since I left the school-room, no girl would have left my care without receiving instruction as to the proper care of her body. The law requires the effects of stimulants and narcotics upon the human body to be taught in our schools. Speed the day when instruction shall be given in regard to the parts of the body that are seemingly considered too impure to receive attention, or are so considered by the child.

I know from experience how ill-

health can be caused by ignorance. After spending about five years in the school-room I was called upon to care for an invalid one whole year. During that time I was almost constantly in the sick room, or in close proximity. I thought no one could care for her but myself, and she seemed to think the same. While I do not regret the faithfulness to the dearest one I have ever known, I do regret that I was too ignorant to take the fresh air and proper rest. I could have better cared for her, and retained my health as well. My nerves were under constant strain, for it seemed I could never give her up. I think my strength buoyed her, and with the great amount of rubbing which I gave her I absorbed impurities. With watching night after night I was chilly, and did not properly ventilate the room. I did not take more than two whole nights' uninterrupted rest during all her sickness. It has taken me all these seven years to regain my health, and I sometimes think I am not yet quite the person I was before her sickness.

I have told this that others may take warning. When we see people doing likewise to tell them of their danger. In fact, when we see anyone doing anything that will result in an injury to that one or to anyone else, let us give kindly warning, for the neighborhood is composed of individuals, and all that we can do to help them will improve the conditions of our neighborhoods.

Now, in every neighborhood there are certain ones who are morally strong, and are interested in all good works. Get these people together, read and talk of plans to benefit mankind, study earnestly, and work with a will, and good must result from your efforts.

Battle Creek.

BURDOCK.

A PROTEST.

Dear Mrs. Rockwood: As the time is approaching for the annual fresh-air movement, it may not be amiss to give some personal experience. I think Mrs. Mayo makes the statement that she has had no adverse report from those who have participated in the work. Then I would like to score one, on the debit side of the account.

My wife became interested in talking with a relative, a popular young minister of Chicago, who had been engaged in the work for several years. She agreed to take two, and enlisted several of her friends to take others. There were seven sent over—two girls of 12 years, two boys of about the same age, a young lady of 20 with a little sister of 7, and also a woman and baby. Our only fears had been that we might get some depraved specimens of humanity that might contaminate our children. The minister evidently took the opposite extreme.

There are two qualifications implied in the term "fresh-air guests," that naturally suggest themselves to all, viz., a state of health that renders fresh air desirable, and a state of finances that precludes such luxury without assistance. We were disappointed in both. With the exception of the little 7-year-old girl, and the baby, our party was in splendid health, much better, in fact, than those who waited on them. In respect of finance, the woman with the baby expected soon to pay her way to Canada to visit her parents; the young lady had seriously thought of attending the Christian Endeavor convention at Toronto, but had given it up, not on account of the fare, but because she would have had to buy more clothing. One of the other girls had a sister attending Kalamazoo College.

Now, we don't blame the minister, except in the choice of subjects. He had donations of money given him to be used for that purpose. We were told of a donation of \$100 from one person the same day they left Chicago.

What we protest against is, that farmers' wives should be induced to think it their duty to entertain these people. I say entertain, because my wife soon found out that she had company from the city, and that they had not brought their best clothes with them, and before they left she had learned considerable in the way of making fancy salads, puddings and omelettes.

Now, this same minister had another method which I consider ideal, and which lays no one under obligation. He rented a house at Benton Harbor, sent over a paid matron to take charge of it and receive and care

for those who came, and see that they returned safely. It seems to me that is preferable by far to the plan of asking the large-hearted but not always able-bodied farmer's wife to assume it. Belknap, Mich. M. W. KITCHEN.

ANOTHER ONE INTERESTED IN THE HOUSEHOLD.

Although I have never dared to write to the Household before, yet I have been for several years a reader of The Michigan Farmer, and the Household department is always the first thing I read. There are so many helpful thoughts and modes of doing work contained in its columns that I very much enjoy it.

To Mrs. Rural I would say that I have made flour gravy from my childhood and never have any trouble with lumps. I heat the fat, stir in the flour, let it brown and then pour in cold or luke-warm water, stirring constantly until it is cooked. Made half water and half sweet milk improves it.

When there was so much being said about church-going, I wanted to say something, too, but could not find the courage to do so, and if there are no objections I will mention one thought, which seems important to me. Some one said that when a young man wanted a wife he would go to the church to look for one, saying, "I am not a Christian, but I want a wife who is one." Now what right has such a man to think he deserves a Christian wife? Why does he not use good reason and say, "If I, a sinner, desire a Christian companion, is it not likely she desires for her helpmate through life one with whom she can walk hand in hand Heavenward?" Why do our girls marry those men whom they know will not attend church and make no pretensions to Christianity and then complain because their husbands do not care to attend religious services?

I am unmarried and may always remain so on account of my radical views on the subject of matrimony (if such views are considered radical). My letter has assumed such proportions I dare not write any more for fear of that awful waste basket. If it does escape it I may venture to write again some time.

(There, you see you did escape it. C. R. B., so please come again.—Ed.)

"GLORYING IN THE GOAD."

Some forty years ago Gail Hamilton gave in the Atlantic Monthly an article with the above sarcastic title. It was then something new in the literary world, for farming was only lauded, ever praised, but carefully shunned. It is a good deal the case yet, as I see by the criticisms on my article in The Farmer. Why, ladies, you are all out of style! You belong to a past age. Don't you know it is all the fashion now to commiserate the poor farmer's wife's sad lot, with her drudgery, and her heart and mind hunger from which her only escape is to the insane asylum or an early grave?

Mrs. Mayo, whom all Grangers delight to honor for her uplifting thoughts and noble aspirations, in her address at Bay View last summer made a plea in behalf of the hard-working farmer's wife. She believes in work as ennobling, and that they should use the best they have in everyday life, and thought at the time applauding the sentiment, after the lecture some women said they pitied her sad lot; her hands and face showed she worked too hard, and they said they would never use napkins or their silver table wear for every day. I get this information from my wife, as also the following true case: A city lady here called on my wife, and she said she doted on intellectual culture, but she was poor, and in attending clubs and lectures could not, with her health, get an early breakfast, and her husband, said she, was so good as to get his own so as to get to his work in time. This lady is the picture of health and freshness at middle life. Now, it is for the ladies to decide which one in these two cases chose the better part.

Country women, as a rule, keep on in the good old ways of being slaves to men; the most of the divorcees are hatched up in town. This may be construed favorably or unfavorably to town life, as you choose. As to morals, there are bad boys in the country; it is doubtful if city schools can hold a candle to the downright deviltry to be learned at most country schools.

Your correspondents, while praising the institutes, Grange, reading circles,

etc., do not deny the dullness of country life, especially in the long winters. It can't be helped, of course; but to say the first-class entertainments, lectures, etc., to be had only in the cities, are worth driving a long distance to hear, is only begging the question. The truth is, the country people who must take these long drives can be counted on your fingers in any opera hall. A drive of a mile or two at night is a task, while more so is one of five or six and back, getting home perhaps at 2 o'clock a. m.

As to girls not wishing to marry farmers, the awakening of the female mind by modern methods of education causes our girls to have new and more ambitious aims in life; there is abroad a spirit of unrest, and they are apt to think they deserve a better fate than to minister to the material wants of a farmer and his hired hands, pigs and calves. But then, to get a college education and enter the ranks to compete with men in the professions, does it not unfit them for a home life? For instance, a woman physician starts in business here, and leaves a husband and young children somewhere else. It may be a prejudice we have, yet certainly would it not be more in accordance with nature, instead of usurping a man's place, for a girl, when married, to say to her husband, "You must hustle, now, for a living for both, and not I for you." Don't be afraid, ladies, to trust to nature and the eternal fitness of things; you'll come out all right in the end, and the world will be the better for it.

H. VOORHEES.

RURAL SCHOOLS.

There is no subject that ought to lie nearer the hearts of the farmer's family than the rural school. The parents ought to be very much interested in the education of their children. The girls and boys usually desire an education, often become morbid and discontented because they cannot secure as good an education as their city cousins.

Our city friends, to help them out of their perplexity, have conceived the idea of a unit school system for rural districts, which no farmer wants if he will thoroughly post himself upon the said system in all its bearings. The friends of the system make it appear very plausible to the unthinking farmer, who often takes smooth words for facts. There should be a change, it is true. The same class that would spring upon the farmer the unit system sets the bounds of the rural district school at the eighth grade, which is a great evil in the education of our children. Just when we need the help of our grown-up girls and boys, we must send them away to school, or they must stop at the close of the eighth grade. The unit system would not help them out of this at all, as one could send their children as easily to town as to a central school in their own township, and with less expense in the long run.

The higher grades could be taught in the district school. Forty years ago botany, astronomy, physics, algebra, rhetoric, and like branches were taught in these. The children were secure from many temptations that meet them when out from under the care and oversight of the parents. In those years that they need parental influence most they are away attending school. Some who read this article may think the writer doesn't know what she is talking about. That is a mistake, for it has been her study for the last six years. Her heart is in it. To prove that one receiving her education largely in a rural school may rise to high position, we would cite the reader to a lady in the city of Washington, who at present receives a salary of \$1,200 a year, in government employ. Now, sisters of the farmer's household, let us think upon these things. Let us ever stand true to the best interest of our children.

MRS. H. A. BARNARD.

HELPS FOR YOUNG MOTHERS.

Have regular hours for your baby's naps, and try to induce him to go to sleep when the time arrives. His cradle should be placed in some quiet corner, where he will not be disturbed by the noise the older children make, the running of the sewing machine, or other things incident to domestic life. Regularity in his habits is really necessary if you wish him to grow up strong and healthy, and if one begins with them properly it is not a difficult matter to inculcate such habits. Dress him warmly, and have every garment loose enough for comfort. Handsome-

ly embroidered gowns are not necessary, but an abundant supply of those made of soft material and laundered without starch, should be provided. Thirty inches from the neck to the hem is long enough for the little dresses and skirts. Extra length means extra weight, which should be avoided in clothing the little ones. Do not wrap his feet so closely that he cannot kick, for exercise is as natural and as necessary for the babies as it is for those of larger growth.

All his underclothes should be of the finest, softest flannel, which may be kept soft and white by washing them properly. Prepare a suds of warm water and good white soap, adding a tablespoonful of borax to every bucketful. Rub each piece lightly between the hands until clean, then rinse in water of the same temperature. Hang the garments on the line where a gentle breeze will blow through them. Soap should never be rubbed directly upon flannels, but dissolved in the water, and there should be no sudden changes from hot to cold water. Upon these things and the use of borax in both washing and rinsing waters, depends the color and texture of your flannels, for if these rules are observed they will retain their soft, fleecy look as long as they last. Borax is invaluable as a germ destroyer also, and if baby's bottles, cups, and other utensils used in feeding him were washed every day in a strong borax solution it would sweeten and purify them, thus materially lessening the danger of diseases of stomach and bowels, which are so common among the little folks.

Use the softest of woolen stockings for the baby, and if he is old enough to wear short clothes, a pair of soft leather moccasins may be added. Stiff shoes are injurious, and often make the feet and ankles ache. Keep him where he will be protected from draughts, but he should never be wrapped up so closely as to make him uncomfortable. The care of a baby costs much thought and time, which every mother worthy of the name gives cheerfully and willingly.

E. J. C.

KENDRICK KEDZIE'S METHOD WITH BOYS AND EDGED TOOLS.

One beautiful sunny forenoon Kedzie was suddenly startled by her husband's voice, calling to her excitedly, as he returned hastily from the field on a casual errand.

"Do you know what those children are about?" Preoccupied with work and care, she had passed back and forth, stepping over the board in the doorway that penned the feet of Kedzie, junior, No. 4, not yet two years old, from straying beyond convenience for material watchcare, oblivious of the three senior specimens of the Kedzie family, who perambulated the yard, ad libitum.

"Why no," she replied, anxiously; "what are they about?"

"You'd better just step to the corn-house and see," he replied. "You should know what they are about."

Kizzie did as he desired, when lo, a laugh-provoking as well as vexatious sight met her eyes. Three little fellows, from 4 to 7 years of age, with beaming eyes and rosy faces, were busy as busy could be. The eldest had climbed to where, in careful order, were hung the augers, in readiness for use. With great skill for boys so young, each boy, auger in hand, could bore any number of holes in the pine floor, and it was being duly perforated.

Kendrick had come upon the scene, and, without disturbing the little fellows, hastily unburdened his mind to their mother. Returning, she asked: "What can I do?"

"You should know what they are about," was the reply. "Whip them when they get into mischief. You should break them of it. I have to be in the field, while you are here to attend to the children."

But Kizzie did not like to whip her children, neither did Kendrick himself like to use the rod. So he returned to the field without further words. The mother put away the augers, and administered a mild reprimand to the boys. There was a very wise look in the kindly brown eyes of the eldest as they ran off to find other employment for busy feet and fingers. How well the mother treasured all the prematurely wise words and looks after he was laid away in his last sleep.

In after years Kendrick would relate how he debated long whether to sharpen and replace the tools, and compel obedience; or permit them to use his tools to their hearts' content.

He chose the latter course. The former he decided would be too great a task. Whenever, later, an edged tool was needed, he put the desired one in order for that special occasion, and he replaced it when done, to repeat the process next time. He tried not to be vexed by their busy work and amusement with his tools, with the result that he raised five mechanics. The youngest of the five loves to remark: "My father spoiled mechanics trying to make farmers of us."

Give the children tools. Keep the busy heads and hands employed. One-hundred years ago an old mother said: "I would keep my children busy, if I had to scatter straws for them to pick up."

ARUAL E. S.

MISTAKES OF OTHER PEOPLE.

Pitiful are mistakes! We act with the very best of intentions and all the sense nature bestowed upon us only to see, too late, that we should have done exactly the other thing. Many mistakes are the result of not taking a long look ahead, for when we are young, well and happy, we cannot realize that age is surely coming. Married people who determine never to have the trouble and care of children always see their mistake in their lonely childless old age.

And how we do mistake when we throw away today's happiness in worrying about the future!

The burdens that make us groan and sweat,
The troubles that make us fume and fret,
Are the things that haven't happened yet.

Don't do it! This advice is too good to give away entirely. I will keep a piece for myself.

I wonder if the girl who changes a lover to whom she is an angel into an indifferent husband to whom she is "My old woman" doesn't mistake greatly? Here is some rhyming advice for her:

Then answer him, No, fair maiden,
Be pitiless and serene,
There are heart-sick wives in plenty,
But an angel is seldom seen.
Keep to your clouds, bright Goddess;
Stay on your throne, fair queen.

A very mistaken man is he who works a rented farm in Southern Michigan when he might get a farm of his own in the cheap lands of the North. The land is cheap not because it is poor, but because it is new. It is very

much as Southern Michigan was once. Of course there is much poor land here that I would not be guilty of recommending to any one, but one is safe in buying the hardwoods land. And do not pay too high a price for it. There is too much money being made from settlers by the dealers in land. There are two crops that can be made from even the poorest Jack pine plains land, and they are fruit and potatoes. I have seen trees on deserted farms that were fairly loaded with fruit.

My "Backwoods Sister," I would like to reach across Kalkaska county and shake hands with you. What a difference it makes in one's enjoyment of life here if you are a genuine lover of Nature! One of my neighbors (who always wanted to go away) said she felt as if she was living in a box. Their clearing was square, with woods on the four sides. Once when she was sick I carried her a new magazine, some flowers and some dry goods samples. The magazine and flowers were not noticed, but the samples were eagerly seized and minutely examined. That kind of a woman would make a mistake to come to Northern Michigan to live.

And I see that I have made a mistake in trying to point out the follies of other people. I pity almost everybody too much to have any enjoyment in considering their mistakes. Only a knowledge of the future that we can never attain to, can keep even the best and wisest of us from mistakes.

Pioneer, Mich.

HULDAH PERKINS.

CONTRIBUTED RECIPES.

Oatmeal Cookies.—Five cups oatmeal, four of flour, one cup butter, one-half cup milk, one and a half of sugar, two of chopped raisins, one egg, a little salt and two teaspoonfuls of baking powder.

I. A.

Orange Float.—To make orange float, take one quart of water, the juice and pulp of two lemons, one coffee cupful of sugar. When boiling hot add four tablespoonfuls of corn starch dissolved in a little cold water. Let it boil fifteen minutes, stirring all the time. When cold pour it over four or five oranges that have been sliced into a glass dish, and over the top spread the beaten whites of three eggs, sweetened and flavored with vanilla.

MRS. A. C. E.

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Payment of Witness Fees.—Amount in Justice Court.—Subscriber, West Sebewa, Mich.—1. Who should pay the officers' fees for serving subpoena for witness for respondent? Could the officer get his pay from the county?—The respondent must pay the officer for serving his witnesses. 2. What fees is a witness entitled to in a Justice Court?—Seventy-five cents for each full day or thirty-seven and one-half cents for each half day and ten cents per mile from place of residence to the court or from the boundary line of the state if the witness be a non-resident.

Note Given as Part of Purchase Price of Land Conveyed to Another.—Relations of Parties.—Subscriber, Leonard, Mich.—I have a son who bought 40 acres of land for \$2,200 and gave a mortgage of \$1,200 and I signed a note for the balance. The son paid the mortgage and says I can pay the note. Can he hold the place as a homestead?—The father's note is a debt and must be paid. In the absence of any written agreement between father and son, the father would take no interest in the property and if it is in fact a homestead, the usual homestead exemption would obtain. Howell's Statutes No 5569 especially provides that where money is furnished by one to another to purchase property and the property is taken in the other's name without objection on the part of the one furnishing the money, the title may not be disturbed by a court of equity unless in fraud of creditors.

The Markets.

WHEAT.

The past week will long be remembered by every one interested in wheat, from the grower to the consumer. The great fluctuations in values, the heavy speculative dealings, the large purchases for exportation and for manufacture, all tended to make the market a sensational one. It is now certain that Great Britain, France, Italy, Spain, and Austria have extremely light supplies of wheat, and are anxious to add to them. So far the United States has not shown any lack of ability to supply them; but it is apparent that stocks must be getting small in the northwest, and it is this fact that is scaring operators. Any falling off in the supply will be the signal for another advance, and it is a question if the supply will keep up till the new crop becomes available. Not in years have stocks the world over been so depleted as at present. Of course substitutes will be more and more used as values advance; but the outlook favors high prices until the new crop comes upon the market. The United States will have a big crop. She should get rid of the old one before it is ready for market. Foreign markets are all steady to firm, and on this side of the Atlantic the tone is strong.

The following table exhibits the daily closing sales of spot wheat in this market from April 25 to May 19, inclusive.

	No. 1.	No. 2.	No. 3.
April 25.....	106	107	108
" 26.....	108	109	108
" 27.....	107 1/2	109 1/2	106
" 28.....	110	111	107
" 29.....	109	109 1/2	105 1/2
" 30.....	110	111	107
May 1.....	110 1/2	112	107
" 2.....	110	111 1/2	107
" 3.....	115	120	113
" 4.....	120	129	118
" 5.....	118	130	118
" 6.....	128	150	125
" 7.....	128	157	128
" 8.....	130	156	128
" 9.....	128	147	125
" 10.....	128	142	125
" 11.....	120	124	118
" 12.....	118	125	115
" 13.....	127	138	125
" 14.....	127	139	125
" 15.....	125	135	125
" 16.....	125	136	125
" 17.....	125	136	125
" 18.....	125	136	125
" 19.....	125	136	125

The following is the record of the closing prices on the various deals in futures each day during the week:

	May.	July.	Aug.
Friday.....	124	103 1/2	92
Saturday.....	135	103 1/2	94
Monday.....	138	108	96
Tuesday.....	139	107	95
Wednesday.....	135	104 1/2	92 1/2
Thursday.....	136	105 1/2	93 1/2

The visible supply of wheat on Saturday last in the United States and Canada was 21,394,000 bushels, as compared with 22,528,000 bushels the previous week, and 22,737,000 bushels at the corresponding date last year. The decrease for the week was 534,000 bushels.

Crop reports are generally favorable. Advices from California say that rains have greatly improved prospects in that state, which has been suffering from a severe and long-continued drought.

The department of agriculture is credited with the statement that the winter wheat area is 26,200,000 acres. Therefore the outlook of the crop on present conditions indicates a yield of about 353,000,000 bushels.

A cablegram from Paris says: "Grain experts say that the magnificent harvest in Algeria, Tunis and Egypt will soon reduce the price of wheat, and that France

will need to reinstate the duty on that cereal. The French crops are promising an abundant yield."

Receipts of wheat at northwestern points are keeping up in a surprising manner. It is evident farmers had more of a surplus in their bins than the best informed thought possible.

According to Broomhall the world's exports of wheat last week were as follows: United States, 3,728,000 bu; Russia, 2,838,000 bu; Roumania, 724,000 bu; India, 1,586,000 bu; Argentina, 596,000 bu; various, 250,000 bu. Total, 9,752,000 bu. This was distributed among the following countries: United Kingdom, 1,952,000 bu; France, 3,572,000 bu; Belgium, 933,000 bu; Holland, 688,000 bu; Germany, 512,000 bu; Italy, 1,056,000 bu; Greece, 204,000 bu; Scandinavia, 16,000 bu; Portugal, 32,000 bu; Austria, 364,000 bu; various, 240,000 bu. The large amounts taken by France show clearly how bare that country is of supplies.

The flour situation is very strong under the exciting influences of the anti-American hostilities and the active demand for wheat by the continent, which threatens to leave the British miller with only a pitiful supply of white wheat. Arrivals into Liverpool during the past week were very moderate, while the consumptive demand has developed large proportions.—Liverpool Corn Trade News.

The San Francisco Call says: "Saturday's and Sunday's rain was worth hundreds of thousands of dollars to the farmers of California. Many fields of wheat were saved from total destruction. The barley crop will, in many sections, be a fair one. Before the rain, the wheat crop of California was placed at 250,000 tons and the barley crop at 100,000 tons. Well informed grain dealers estimate that late precipitation will add 100,000 tons of wheat and 150,000 tons of barley to the crops."

Advices from South Russia are somewhat conflicting regarding the appearance of the growing crop, some of the reports indicating damage to the growing wheat. The condition of foreign crops by the last mail advices are: France, favorable; Russia, fairly favorable; Roumania, favorable; Bulgaria, good rains, followed by fine weather; Italy and Spain, satisfactory; Germany, highly favorable, and Austro-Hungary, most favorable.

DAIRY PRODUCTS.

BUTTER.

The course of the butter market is steadily downward. The receipts are increasing at all points, and we see little hope of any improvement so long as they keep up to their present magnitude. Quotations in this market are as follows: Creamery, 14 1/2c; prime dairy, 12 1/2c; fair to good dairy, 10 1/2c; low grades, 7 1/2c per lb. At Chicago the market is reported inactive, a steady decline to very low figures not stimulating the demand as was expected it would. Quotations in that market on Thursday were as follows: Creameries, extras, 15c; firsts, 14 1/4c; seconds, 12 1/2c. Dairies, extras, 13c; firsts, 12c; No. 2, 11c. Ladies, extra, 12c. Packing stock, 10c. Roll butter, 10c. The New York market has felt the incubus of heavy supplies, and values are lower on all classes of stock. The lowest point was reached on Tuesday, and since then there has been some gain from the lowest points reached, and the market has become steadier. Dairy has suffered because creamery has been in such large supply. Quotations in that market on Thursday were as follows: Creamery, western, extras, per lb, 15 1/2c; do firsts, 14 1/2c; do thirds to seconds, 13 1/4c; do state, extras, 15 1/2c; do thirds to firsts, 13 1/4c; state dairy, half-fats, tubs, 14 1/2c; do Welsh tubs, fancy, 14 1/2c; do dairy tubs, thirds to firsts, 12 1/2c; do imitation creamery, extras, 13 1/2c; do seconds to firsts, 12 1/2c; factory, best, 12 1/2c; do lower grades, 11 1/2c to 12c.

Quotations on creamery at Elgin this week range from 14 1/2c to 15c per lb.

CHEESE.

While quotations are nominally 9 1/2c to 10c on the best full creams, it is safe to say that these figures only represent jobbers' prices on small lots. What first hands are receiving on old stock we do not know, but think the prices paid are quite irregular. New cheese has not yet made its appearance in this market, but the main receipts in New York are of the new make. At Chicago the market is dull, with values lower than a week ago on most grades. Quotations in that market on Thursday were as follows: Young Americas, 8 1/2c; twins, 7 1/2c; cheddars, 7 1/2c; Swiss, 11 1/4c to 13 1/4c; limburger, 7 1/2c; brick, 8 1/2c to 10 1/2c. The New York market is rather unsettled, and values are lower than a week ago. Business is largely confined to the new make. Old cheese, of which the stocks are light, is held strongly, the new make not showing up well in quality. Colored is still selling at a slight premium over white. Exporters are taking a fair amount of stock, confident that their purchases to new, as old is held above their views. There is a fair demand for old cheese from the home trade. Quotations in that market on Thursday last were as follows: New cheese, state, full cream, large, colored, choice, 7 1/2c; do white, choice, 7 1/2c; do good to prime, 7 1/2c; do small, colored, choice, 7 1/2c; do white, 7 1/2c; do good to prime, 6 1/2c; do common to fair, 6 1/2c; light skims, small, choice, 6 1/2c; do large, choice, 5 1/2c; do good to prime, 4 1/2c; do common to fair, 3 1/2c; full skims, 2 1/2c. Old cheese, state, full cream, fall-made, colored, large, fancy, 9c; do white, large, fancy, 8 1/2c; do choice, 8 1/2c; do fair to good, 7 1/2c; do common, 6 1/2c; do fall-made, colored, small, fancy, 9c; do white, small, fancy, 8 1/2c; do prime to choice, 8 1/2c; do common to good, 6 1/2c.

WOOL.

It is a waiting market at present, with few features of interest. The greatest activity is among those manufacturers who have secured government contracts. Very large ones, including all sorts of goods for soldiers' wear, have been placed within the past two weeks. They include army blankets, cloth for suitings, overcoats, underclothing, socks, hats, etc., all of which are made from wool—or should be. If, as is probable, a call for 100,000 more men is issued, these contracts will have to be duplicated, and the demand for wools suitable for their manufacture, must become very active. It is apparent manufacturers are moving with caution. The new clip is beginning to come for-

ward, and any excitement would be very sure to advance values. There is little doing in the eastern markets considering the situation, but we have pretty good evidence that manufacturers have agents out in the wool-growing districts picking up anything that looks cheap. If the clip was all marketed there would be less disposition to hold back and keep quiet than is apparent among manufacturers at present. Those wool-growers who do not understand the situation are wondering why the market is not more active, and others have been induced to part with their clips at figures below their true value. But those government contracts cannot wait. The goods are wanted at once, and must be forthcoming. The wool-grower has the wool, and he is not pressed for time. He is not as short of money as usual at this season, thanks to the higher prices he has been getting for his other products. He can better afford to wait than can the manufacturer, and waiting is likely to pay him this season.

To show what these government contracts amount to we give some of those awarded; 750,000 yards of kersey, for uniforms and overcoats; 350,000 yards of flannel lining for same; 100,000 blankets; 300,000 yards blouse flannel. Other contracts are being awarded as the bids are scheduled and prices examined. There are also enormous contracts for other classes of goods being given out, such as 100,000 rubber blankets, 25,000 hammocks, 10,000 suits of drilling, consisting of coats and trousers. The kerseys, blouse flannels, linings, and blankets must be of wool, as will the shirts and socks. The amount of wool required to make them will be enormous. In awarding the contracts expedition in supplying the goods was given more consideration than price. The army must have them. It can do nothing until supplied with them, and to keep it lying idle and drawing pay costs a tremendous sum of money. It is safe to say the contractors will get good pay, and they should be willing to pay a fair price for wool.

Eastern quotations cut but little figure at present. Prices are relatively higher in Michigan than Boston. At the latter place prices range as follows: Ohio and Pennsylvania fleeces, X and above, 25 1/2c; XX and XX above, 29 1/2c; delaine, 29 1/2c; No 1 combing, 29 1/2c; No 2 combing, 28 1/2c; X Michigan, 22 1/2c; No 1 Michigan combing, 28c; No 1 Illinois combing, 28c; No 2 Michigan combing, 27 1/2c; No 2 Illinois combing, 27 1/2c; X New York and Vermont, 22 1/2c; No 1 do, 27 1/2c; delaine Michigan, 28c. Unwashed medium: Kentucky and Indiana, 14-blood combing, 22 1/2c; Kentucky and Indiana 1/2-blood combing, 22 1/2c; Missouri 1/2-blood combing, 21 1/2c; Missouri 3/4-blood combing, 22c; brand combing, 20c.

Few sales are reported at interior points as yet, growers generally demanding better than present prices. The Portland Review quotes medium washed at 22 1/2c, and fine washed at 18 1/2c. These prices are from 2 to 3c below what they should be. Fine washed (there will be very little of it) should be worth 22 1/2c, and medium washed 24 1/2c. But little of this year's clip will be washed; we are pleased to note that fact as a distinct advance in the wool business. Washing sheep is as senseless as washing pigs would be. The Dowagiac Republican says: "Nearly one-half of the 1898 wool has already been clipped, and is selling for an average of 20c per pound, or about 5c higher than last year." Averaging prices is very misleading, as the question of the class to which the wool belongs would decide whether or not the price quoted was a fair one.

The Coldwater Courier-Republican says of the market there: "A number of clips of wool have been brought in this week and the price paid has ranged from 14 to 18c for unwashed. This price is in advance of last year and may be appropriately called McKinley wool." Kalamazoo News says of that market: "The wool market is now in full blast in Kalamazoo, and the Celery City is said to be an exceedingly good market this year. The price paid for fine wool is about 16c, and 20c for coarse, some good grades bringing a shade more. Wool is being brought into the city from many miles around this season. Monday 8,000 pounds were brought from beyond Milo, and sold to Stern & Co."

DETROIT PRODUCE MARKET.

Detroit, May 19, 1898.

FLOUR.—Quotations on jobbers' lots in barrels are as follows:
Straights \$6.50
Clear 6.25
Patent Michigan 7.00
Low Grade 5.00
Rye 4.50

CORN.—The visible supply of this grain on Saturday last in the United States and Canada was 22,400,000 bu, as compared with 24,915,000 bu the previous week, and 12,885,000 bu at the corresponding date in 1897. Quotations in this market are as follows: No. 2, 39c; No. 3, 38c; No. 2 yellow, 39c; No. 3 yellow, 39c per bu.

OATS.—The visible supply of this grain in the United States and Canada on Saturday last was 8,706,000 bu, as compared with 9,534,000 bu the previous week, and 9,976,000 bu at the corresponding date in 1897. Quotations are as follows: No. 2 white, 35c; No. 3 white, 34c per bu.

RYE.—The visible supply of this grain in the United States and Canada on Saturday last was 1,427,000 bu, as compared with 1,886,000 bu the previous week, and 2,091,000 bu at the corresponding date in 1897. Quoted at 61c per bu for No. 2.

BARLEY.—The visible supply of this grain on Saturday last was 582,000 bu, as compared with 606,000 bu the previous week, and 1,476,000 bu at the corresponding date in 1897. Quoted at \$1.00 per hundred. But little coming in.

BEANS.—In good demand at \$1.23 per bu for May delivery, and \$1.24 for July. The government is in the market for large amounts.

FEED.—Jobbing quotations on carload lots are as follows: Bran and coarse middlings, \$14; fine middlings, \$15; cracked corn, \$15; coarse cornmeal, \$13; corn and oat chop, \$13 per ton.

LIVE POULTRY.—Chickens, 8 1/2c; fowls, 7 1/2c; ducks and geese, 7 1/2c; turkeys, 10 1/2c per lb.

EGGS.—Selling at 9 1/2c to 10c per doz.

TALLOW.—Quoted at 3 1/4c to 3 1/2c per lb.

RUTABAGAS.—Quoted at 18c per bu.

HAY.—Steady at \$8.75 per ton for best timothy.

CABBAGE.—Quoted at \$1.50 to \$1.75 per crate.

DRIED FRUITS.—Evaporated apples, 8 1/2c; evaporated peaches, 10 1/2c; dried apples, 4 1/2c to 5c per lb.

APPLES.—Selling at \$3.00 to \$3.50 per bin for fair to good, and \$3.75 to \$4.00 for fancy.

MAPLE SUGAR.—Pure quoted at 10 1/2c per lb; mixed, 8 1/2c per lb.

HONEY.—Quoted at 9 1/2c per lb for ordinary to best.

ONIONS.—Now quoted at 95c to \$1.00 per bu for Michigan.

POTATOES.—Values are lower; now quoted at 75c to 80c per bu from store for Michigan. Southern quoted at \$1.50 per bu, and supply increasing.

HIDES.—Market firm and higher. Quotations are as follows: No 1 green, 7 1/2c; No 2 green, 6 1/2c; No 1 cured, 9c; No 2 cured, 8c; No 1 green calf, 10c; No 2 green calf, 8 1/2c; No 1 kip, 7 1/2c; No 2 kip, 8c; sheepskins, as to wool, 90c to \$1.25; shearlings, 12 1/2c to 20c.

COFFEE.—Quotations are as follows: Roasted Rio, ordinary, 9c, fair, 11c; Santos, good, 14c, choice 18c; Maracaibo, 20 1/2c; Java, 26 1/2c to 30c; Mocha, 28 1/2c to 32c.

PROVISIONS.—Market steady and unchanged. Quotations are as follows: Mess pork, \$11 per bbl; short cut mess, \$11.25; short clear, \$10.75; compound lard, 5c; family lard, 5 1/2c; kettle lard, 6 1/2c; smoked hams, 8 1/4c to 8 1/2c; bacon, 8 1/2c to 8 3/4c; extra mess beef, \$9.00; plate beef, \$8.75.

OILS.—No change in oils, but turpentine is slightly higher. Quotations are as follows: Raw linseed, 45c; boiled linseed, 47c per gal, less 1c for cash in ten days; extra lard oil, 53c; No 1 lard oil, 54c; water white kerosene, 8 1/4c; fancy grade, 11 1/2c; deodorized stove gasoline, 7 1/2c; turpentine, 34 1/2c per gal in bbl lots.

HARDWARE.—No changes in prices since a week ago. Latest quotations are as follows: Wire nails, \$1.60; steel cut nails, \$1.55 per cwt, new card; axes, single bit, bronze, \$5.00; double bit, bronze, \$5.50; single bit, solid steel, \$6.50; double bit, solid steel, \$8.50 per doz; bar iron, \$1.35; carriage bolts, 75 per cent off list; the bolts, 70 and 10 per cent off list; painted barbed wire, \$1.65; galvanized, \$1.95 per cwt; single and double strength glass, 80 and 20 per cent off new list; sheet iron, No 24, \$2.50 per cwt; galvanized, 75 and 10 per cent off list; No 9 annealed wire, \$1.45 rates.

DETROIT LIVE STOCK MARKET.

Michigan Central Stock Yards.

Thursday, May 19, 1898.

CATTLE.

Receipts Thursday, 360, as compared with 524 one week ago. Market active. Good handy butchers strong to 10c higher than prices paid one week ago; \$4.60 was the top price to-day for 40 good butcher steers av 1,093 lbs, but the bulk changed hands at prices ranging from \$3.50 to \$4.50; fair to good fat cows, \$3.25 to \$4.00; canners and common, \$2.50 to \$3.00; bulls, \$3.00 to \$3.60; stockers, \$3.65 to \$4.25. Veal calves—Receipts, 151; one week ago, 156; active at \$5.00 to \$5.75 per 100 lbs. Milch cows and springers active at \$30 to \$55 each.

Erwin sold Black 2 cows av 925 at \$3.50 and 14 steers to Caplis & Co av 900 at \$4.40. Spicer & M sold Hammond Co a cow weighing 750 at \$2.75, 1 do weighing 1,000 at \$3.75, 1 do weighing 900 at \$3.50, 3 mixed butchers to Kamman av 573 at \$3.90 and 3 stockers to Mason & F av 586 at \$4.25.

McKiggon sold Sullivan 3 stockers av 676 at \$4.35.

Nixon & McM sold Mich Beef Co 22 steers and heifers av 990 at \$4.25.

Downey sold Fitzpatrick 3 mixed butchers av 1,006 at \$3.50, 4 steers and heifers to Black av \$32 at \$4.45 and a stocker to Sullivan weighing 520 at \$3.75.

Sprague sold Black 8 steers and heifers av 841 at \$4.50, 2 cows av 1,055 at \$3.95 and a cow to Hammond Co weighing 1,060 at \$3.65.

Williams sold Caplis & Co 10 mixed butchers av 1,012 at \$3.85, 6 do av 1,094 at \$3.85 and 11 steers av 840 at \$4.35.

Smith sold Mich Beef Co 5 steers av 874 at \$4.50.

Pline sold Caplis & Co 5 cows av 952 at \$3.80 and 7 steers av 864 at \$4.50.

Rook sold Hammond Co 3 cows av 940 at \$3.75 and 1 weighing 1,340 at \$3.25.

Watson sold same 11 do av 1,045 at \$3.60, 1 do weighing 1,060 at \$3.25 and 4 steers and heifers to Caplis & Co av 977 at \$4.25.

Bergen & Terhune sold Black 4 cows av 1,097 at \$3.50 and 3 canners to Hammond Co av 833 at \$2.50.

Bresnahan & H sold Magee 2 (cow and bull), av 1,190 at \$3.50.

Cushman sold Mich Beef Co 40 steers av 1,093 at \$4.60.

Mayer sold Black 6 mixed butchers av 956 at \$4.15.

Reed sold Hammond Co 7 mixed butchers av 820 at \$3.50.

Reason sold Clancy 2 cows av 855 at \$2.80 and 2 do to Caplis & Co av 1,015 at \$3.65.

Kalahan sold Hammond Co 3 cows av 1,010 at \$3.50 and 1 do weighing 930 at \$3.

W. Clark sold same 8 cows av 1,140 at \$3.75.

Belhimer sold Fitzpatrick 3 mixed butchers av 883 at \$4.00 and a stocker to Sullivan weighing 570 at \$4.00.

Nichol sold Caplis & Co 3 steers and heifers av 905 at \$4.25 and a bull weighing 600 at \$3.25.

Sly sold Mich Beef Co 6 cows av 1,071 at \$3.80.

Ford sold Fitzpatrick a steer weighing 1,330 at \$4.55.

SHEEP AND LAMBS.

Receipts Thursday, 557; one week ago, 760. Market active; the fair desirable lots here sold early at prices ranging 10c higher than one week ago. Range of prices: Clipped lambs, \$4.25 to \$4.80; fair to good Belhimer sold Mich Beef Co 15 spring lambs, \$2.50 to \$4.90 each.

Watson sold Monaghan 30 sheep and lambs av 77 at \$4.

Dennis sold Fitzpatrick 121 mixed av 67 at \$4.25.

Thorburn sold Young 26 clipped lambs av 57 at \$4.70.

Belhimer sold Mich Beef Co 15 spring lambs av 57 at \$6.50.

Spicer & M sold same 104 clipped lambs av 78 at \$4.80.

Townsend sold same 168 fat sheep av 125 at \$4.20.

Adams sold Monaghan 38 spring lambs av 70 at \$4.60.

Woe & Holmes sold Robinson 11 mixed av 104 at \$4 and 10 bucks av 144 at \$2.75.

HOGS.

Receipts Thursday, 5,178, as compared with 5,045 one week ago. Of fair, average

mixed quality. Market active and unchanged from last Friday's closing. Range: \$4.00 to \$4.37½; pigs, \$3.60 to \$3.75; Assorted lots, \$4.30 to \$4.35; two bunches brought \$4.37½; mixed lots, \$4.20 to \$4.25; stags, 1-3 off; roughs, \$3.50 to \$3.75.

Watson sold Sweet 19 av 134 at \$4.20. Coats sold Parker, Webb & Co 86 av 145 at \$4.25. Sweet & N sold same 147 av 160, and 43 av 189 at \$4.25. Leidel sold same 81 av 174 at \$4.35. Cushman sold same 133 av 170 at \$4.25. Sharp sold same 71 av 173 at \$4.25. Butler sold same 14 av 206 at \$4.25. Thorburn sold same 121 av 163 at \$4.25. Thompson sold same 59 av 181 at \$4.25. Stephens sold same 43 av 170 at \$4.25. Baughman sold same 88 av 163 at \$4.27½. Pinkney sold same 148 av 167 at \$4.20. Roe & Holmes sold same 113 av av 181 at \$4.35; 161 av 179, 16 av 245 at \$4.37½; 125 av 189, 59 av 211, 146 av 167, 32 av 142, 14 av 142, 88 av 154, 71 av 165, 82 av 162, 54 av 176, 46 av 203, and 60 av 170, all at \$4.35.

Davies sold R S Webb 80 av 150 at \$4.25. Thorburn sold same 83 av 158 at \$4.25. Reason sold same 60 av 155 at \$4.25. Hoover sold same 105 av 162 at \$4.25. Erwin sold same 29 av 177 at \$4.25. Jelsch sold Hammond, S & Co 57 av 195 and 86 av 151 at \$4.27½. Adams sold same 55 av 192 at \$4.10. Nixon & McM sold same 171 av 168 at \$4.25.

Ackley sold same 77 av 179 at \$4.22½. Mayer sold same 133 av 175 at \$4.32½. Bergen sold same 59 av 185 at \$4.25. McKiggon sold same 131 av 169 at \$4.25. McRobert sold same 72 av 160 at \$4.25. Baker sold same 60 av 167 at \$4.25. McKiggon & Co sold same 44 av 176 at \$4.25.

Kalahan sold same 66 av 170 at \$4.30. Harger sold same 74 av 168 at \$4.25. Stephens sold same 57 av 182 at \$4.25. Spicer & M sold same 36 av 193, 53 av 172 at \$4.30, 56 av 144 at \$4.20 and 79 av 151 and 61 av 160 at \$4.25. Smith sold same 78 av 166 at \$4.25. Stoll & Co sold same 76 av 195 at \$4.32½. Belhimer sold same 63 av 156 at \$4.30. Downey sold same 42 av 150 at \$4.20. Bandfield sold same 109 av 194 at \$4.32½. Joe McMullen sold same 154 av 172 at \$4.25. Sweet & N sold Sullivan 23 pigs av 81 at \$3.60. Ansty sold same 68 av 136 at \$4.00.

Friday, May 20, 1898.

CATTLE.

Receipts Friday, 132; one week ago, 246. Market active and strong to 5c higher. All sold early, closing firm. \$4.75 was top price to-day for good butcher steers av 1,115 lbs, balance as noted. Veal calves higher; tops brought 6c. Milch cows and springers unchanged.

Drace sold Sullivan 4 steers av 1,035 at \$4.55. McMullen sold Sullivan a bull weighing 1,070 at \$3.50 and a steer weighing 1,100 at \$4.55.

Roe & Holmes sold Nanguin & Cook 21 steers av 1,033 at \$4.62½, 2 cows to Mich Beef Co, av 1,055 at \$3.75, 2 steers to Robinson av 1,000 at \$4.50, 1 do weighing 1,160 at \$4.50, 36 steers and heifers av 676 at \$4.45, 6 do av 620 at \$4.25, 4 mixed butchers av 850 at \$3.50, 2 cows av 1,045 at \$3.90, 1 av 1,020 at \$3.50, 5 cows to Black av 1,046 at \$3.75, 3 do av 1,236 av \$3.75, 10 steers and heifers av 900 at \$4.50 at and 2 steers to Sullivan av 885 at \$4.10.

H H Howe sold Caplis & Co a fat heifer weighing 940 at \$4.40 and 5 cows av 1,062 at \$4.

Carsey sold Fitzpatrick 4 cows av 1,087 at \$3.75.

Weeks sold Hammond Beef Co 3 cows av 1,046 at \$3.30. Shook sold Sullivan a bull weighing 1,610 at \$3.50.

Astley & Son sold Black 2 cows av 1,245 at \$3.85 and a bull to Mason & F weighing 930 at \$3.50.

Fox & Bishop sold Magee a cow weighing 960 at \$3.50 and 2 heifers to Black av 925 at \$4.20.

Parsons & H sold Mich Beef Co 2 steers av 945 at \$4.50 and 3 mixed av 1,130 at \$3.60. Beadle sold Caplis & Co 2 mixed butchers av 810 at \$3.35.

Talmage sold Black a fat cow weighing 1,270 at \$4.15, 3 heifers av 763 at \$4.35. Haley sold Caplis & Co 2 cows av 1,070 at \$3.50, a bull weighing 1,300 at \$3.65, 2 heifers to Black av 850 at \$4.50 and 22 steers to Carnell & S av 1,115 at \$4.75.

SHEEP AND LAMBS.

Receipts Friday, 419; one week ago, 539. Market active and unchanged from above quotations.

Underwood sold Robinson 18 clipped lambs av 107 at \$4.50.

McLaren sold Sullivan Beef Co 36 mixed butchers av 62 at \$4.20.

Fox & Bishop sold Mich Beef Co 32 mixed butchers av 102 at \$4.

Roe & Holmes sold Burnstine 26 mixed butchers av 77 at \$3.25.

Leach sold Mich Beef Co 110 mixed butchers av 92 at \$4.25.

Judson sold Sullivan Beef Co 44 mixed butchers av 106 at \$4.25.

Leach sold same 13 mixed butchers av 72 at \$3.50.

Hauser sold same 9 mixed butchers av 100 at \$4.25.

Roberts & S sold Mich Beef Co 120 clipped lambs av 82 at \$4.75.

HOGS.

Receipts Friday, 3,548, as compared with 2,611 one week ago. The quality averaged better to-day. Market opened slow and lower, later trade was active at prices 5 to 7½c lower than above quotations.

H H Howe sold Parker, Webb & Co 21 av 149 at \$1.10.

Pline sold same 60 av 176 at \$4.25.

Shelton sold same 140 av 167 at \$4.20.

Parsons & H sold same 102 av 190 and 82 av 188 at \$4.25.

Hauser sold same 104 av 171 at \$4.30.

Brown & Young sold same 45 av 209 at \$4.30.

F W Horner sold same 113 av 185 at \$4.20.

Luckie sold same 73 av 178 at \$4.25.

McLaren sold same, 80 av 189 at \$4.25 and 59 av 179 at \$4.25.

Nelson sold same, 15 av 194 at \$4.25 and 12 av 229 at \$4.20.

Astley sold same, 108 av 160 at \$4.20.

Moore sold same 163 av 161 and 136 av 161 at \$4.20.

Eddy sold same, 109 av 178 and 69 av 188 at \$4.20.

Leach to Hammond, S. & Co., 51 av 184 at \$4.20.

Beadle to same, 85 av 158 at \$4.22½.

Drace to same, 45 av 169 at \$4.25. Richmond to same, 50 av 199 at \$4.25. Bullen to same, 74 av 217 at \$4.22½. Roe & Holmes to same, 59 av 209 and 32 av 217 at \$4.25. Fox & Bishop to same, 126 av 179 and 83 av 189 at \$4.22½. Cassey to same, 39 av 182 at \$4.22½. Roe & Holmes to same, 83 av 189 at \$4.25 and 77 av 159 at \$4.20. Judson to same, 29 av 176 at \$4.20. Jelele to same, 65 av 153 at \$4.12½. Roberts & S. to same, 120 av 181 at \$4.20. Talmage to same, 126 av 180 at \$4.15. Underwood to same, 79 av 189 at \$4.20. Webster & B sold Hammond, S & Co 84 av 141 at \$4.10. Weeks sold same 69 av 166, at \$4.20. Hertler sold same 68 av 194 at \$4.20. Haley Bros sold same 68 av 159, at \$4.20. Weeks sold Sullivan 21 pigs av 100 at \$3.65. Fox & B sold same 52 pigs av 105 at \$3.65.

OUR BUFFALO LETTER.

East Buffalo, May 19, 1898.

Cattle.—Receipts of cattle on Monday last were 3,144, as compared with 4,884 the same day the previous week, and shipments were 2,640, as compared with 3,850 for the same day the previous week. The market opened Monday with a fair amount of activity, but slowed up before the close with values rather weak. Heavy steers ruled slow at unchanged prices; bulls were in good demand and firm; oxen were in light supply, but the demand was equally so; stockers and feeders were in active demand at strong prices, especially for light yearlings and calves. The range of prices at the close was as follows: Good to extra shipping and export steers, \$4.60 to \$5.00; smooth fat butchers' steers, \$4.40 to \$4.70; thin to half-fattened steers, \$3.90 to \$4.35; heifers, fair to best, \$3.50 to \$4.65; cows, common to best, \$2.50 to \$4.15; stockers and feeders, \$3.90 to \$4.60. Since Monday the market has ruled easy, with a decline on most grades as compared with the opening of the week. Prime steers are lower than for a number of months. Quotations at the close on Monday were as follows: Export and shipping steers—Prime to extra choice finished steers 1,400 to 1,450 lbs, \$4.90; prime to choice steers 1,300 to 1,400 lbs, \$4.65 to \$4.75; good to choice fat steers 1,250 to 1,300 lbs, \$4.55 to \$4.90; good to choice fat smooth steers 1,050 to 1,250 lbs, \$4.50 to \$4.55; green coarse and rough fat steers 1,050 to 1,400 lbs, \$4.00 to \$4.35. Butchers' native cattle—Fat day trade steers 1,050 to 1,150 lbs, \$4.40 to \$4.50; fat, smooth, dry fed light fat smooth 900 to 1,000 lbs, \$4.35 to \$4.40; light half-fat steers, \$4.20 to \$4.25; green steers thin to half fattened 1,000 to 1,300 lbs, \$3.90 to \$4.25; fair to good steers 900 to 1,000 lbs, \$4.15 to \$4.35; choice smooth fat heifers, \$4.25 to \$4.45; fair to good fat heifers, \$3.90 to \$4.15; light thin half-fat heifers, \$3.50 to \$3.75; fair to good mixed butchers' stock, \$3.55 to \$4.15; mixed lots fair to choice quality fat cows and heifers, \$3.75 to \$4.25; good smooth well fattened butchers' cows, \$3.55 to \$4.40; fair to good butchers' cows, \$3.50 to \$3.65; common old and shelly cows, \$2.50 to \$3.15. Bulls and oxen—Export weight bulls, fat and smooth, \$4.40 to \$4.55; good fat smooth handy weight butchers' bulls, \$3.85 to \$4.25; fair to good sausage bulls, \$3.40 to \$3.75; thin, old and common bulls, \$3.30 to \$3.35; stock bulls, common to extra, \$3.20 to \$3.50; fat smooth young oxen to good lots fit for export, \$4.25 to \$4.50; fair to fairly good partly fattened young oxen, \$3.50 to \$4.15; old common and poor oxen, \$2.25 to \$3.40. Native stockers and feeders—Feeding steers, good style, weight and extra quality, \$4.40 to \$4.80; feeding steers common to only fair quality, \$4.15 to \$4.40; good quality yearling stock steers and calves, \$4.00 to \$4.90; stock heifers common to choice, \$3.40 to \$3.55; stock steers cull grades and throw outs, \$3.90 to \$4.25.

Thursday the market ruled dull and weak. Sheep and Lambs.—Receipts, Monday, were 8,800, as compared with 13,800 the previous Monday; shipments were 6,400, as compared with 10,400 for the same day the previous week. The market opened fairly active, with prices showing an advance of 15¢ to 25¢ on lambs, and 10¢ on good sheep, while common were firm. The only weakness was shown in the export trade. Sheep and lambs, which ruled slow. The best clipped lambs sold up to \$5.10 to \$5.25, 5¢ to 10¢ higher than the previous Monday; fancy clipped wethers, \$4.20 to \$4.35, which was 10¢ to 15¢ higher than the same day last week. Michigan lambs topped the market as usual, as did Michigan sheep. Since Monday the market has ruled slow, with a drop of 10¢ on lambs, and 5¢ on some classes of sheep. The market on Wednesday closed steady, at the following quotations: Clipped lambs, \$5.10 to \$5.15; fair to good, \$4.65 to \$5.05; culls and common, \$4.15 to \$4.60; heavy clipped lambs, \$4.30 to \$4.40. Clipped sheep—Good to fancy wethers, \$4.15 to \$4.25; choice to extra handy mixed, \$3.90 to \$4.10; common culls to fair butcher sheep, \$2.25 to \$3.65; heavy fed western export clipped sheep, \$3.75 to \$3.85; heavy native corn fed wether sheep of 110 to 125 lbs, \$3.50 to \$3.55.

Receipts were fair Thursday, but the market ruled active and stronger for good lambs, while others were weak. Tops sold at \$5.10 to \$5.20; choice, \$4.75 to \$5.00; culls, \$4.25 to \$4.50. Sheep firm and unchanged.

Hogs.—Receipts of hogs on Monday last were 21,550, as compared with 24,310 for the same day the previous week, and shipments were 19,760, as compared with 16,550 for the same day the previous week. While the supply was liberal, the demand was sufficiently active to strengthen values, and heavy grades closed at an advance, while the lighter grades and yorkers were firm. The only class showing weakness was pigs, and they ruled lower. Light hogs and yorkers sold at \$4.20 to \$4.40; mixed packing, \$4.00 to \$4.50; prime heavy, \$4.00 to \$4.65; pigs, \$3.50 to \$4.00. Tuesday the market held steady, but on Wednesday, under larger receipts of pigs and light hogs, there was a decline on those grades, and the market closed dull with a good many unsold. Closing quotations were as follows: Good to choice light medium grades 175 to 190 lbs, \$4.30 to \$4.40; choice and selected yorkers 140 to 160 lbs, \$4.25 to \$4.30; light yorkers and pigs mixed, \$4.00 to \$4.15; mixed packing grades 180 to 200 lbs, \$4.00 to \$4.50; fair to best medium weight 210 to 230 lbs, \$4.45 to \$4.50; good to prime heavy hogs of 270 to 300 lbs, \$4.55 to \$4.60; roughs common of 270 to 300 lbs, \$3.80 to \$3.90; stags common to good, \$3.90 to \$4.10; stags common to good, \$3.90 to \$4.10; pigs 110 to 120 lbs good to prime corn fed lots, \$3.85 to \$3.90; pigs thin to fair light weights 75 to 100 lbs, \$3.70 to \$3.80; pigs,

skips and common light and undesirable lots, \$3.50 to \$3.65. Thursday the market opened weak, but closed stronger, Yorkers sold at \$4.35 to \$4.45; other grades, \$4.40 to \$4.55; pigs, \$3.80 to \$4.00.

CHICAGO.

Union Stock Yards, May 19, 1898.

Cattle.—Receipts for last week were 46,005 head, as compared with 50,236 the previous week, and 44,807 for the corresponding week in 1897. Receipts Monday were 14,445, as compared with 19,896 for the same day the previous week. Receipts were much lighter, and business was active all day, as exporters, shippers and dressed beef operators were all in want of stock. Prices were a strong 10¢ higher on all good cattle, whether natives, branded or unbranded; they were all wanted. All kinds of butchers' stock sold for the high-est prices this year; canners sold at \$3.20 to \$3.60. Top prices here to-day were \$3.65 to \$3.75 for good native steers and \$4.65 to \$4.85 for branded; no prime steers on sale. The general market closed steady. Veal calves sold at \$5.00 to \$6; a few lots of steer stock calves sold at \$6.25 to \$6.40; a few fancy stockers sold as high as \$4.75; others \$3.75 to \$4.50. Up to and including Wednesday of this week receipts have been 33,875, as compared with 36,694 for the same days last week. Wednesday the market was fairly active with nice, handy-weight steers selling fully as well as on Monday; big heavy steers were slow and rather easier; those that were too big, coarse and heavy a trifle lower and hard to sell. Top price for the week \$5.15 and Wednesday that was the top price for prime steers; fair to good steers for export, shipping and dressed beef trade, \$4.50 to \$4.75, a few at \$5.05. Cow and heifer stock, yearlings and canners, selling right up to the top notch; heifers sold up to \$4.85; canners from \$2.50 to \$3.75, and cows up to \$4.10. Veal calves sold at \$5.75 to \$6.25 for the tops; some lots of prime steer calves sold to go back in the country at \$6.75; have sold at \$6.50 to \$7; heavy stockers, \$4.30 to \$4.60; light stockers, \$4.75 to \$5.

Thursday estimated receipts were 9,500; market steady at the following range: Native steers, fair to prime, \$4.00 to \$5.25; cows and heifers, \$2.75 to \$4.70; Texas steers, \$3.90 to \$4.50; stockers and feeders, \$4.00 to \$4.90.

Sheep and Lambs.—Receipts last week were 68,105, as compared with 66,922 for the previous week, and 60,804 for the corresponding week in 1897. The market opened with 17,293 on sale, as compared with 16,932 the same day last week. Monday trade was active, with prices steady to strong as compared with the close of the market last Friday. Packers bought in big drafts, say from 1,000 to 2,000 in a clip, paying top prices and getting the best. Heavy clipped sheep sold at \$4.40 to \$4.55; handy weights and yearlings, \$4.10 to \$4.25; heavy clipped lambs sold for export at \$4.50; handy weight clipped Colorado lambs in fleece, \$5.10 to \$5.30. Only a few spring lambs were on sale, and they sold at \$5.25 to 75¢ per hundred. Up to and including Wednesday of this week receipts have been 47,457, as compared with 46,680 for the same days last week. Wednesday trade was active and prices steady to strong on all sorts of sheep and lambs, the clipped lambs selling somewhat higher than yesterday. A few fat ewes sold at \$3.75 to \$3.90; heavy clipped sheep, \$4.40 to \$4.50; handy weights and yearlings, \$4.15 to \$4.50. Heavy clipped lambs (80 to 100 lbs, average) sold at \$4.50 to \$4.60; light and handy weights, \$4.75 to \$5. Colorado woolled lambs sold at \$5.10 to \$5.40.

Receipts Thursday estimated at 11,000; market strong to 10¢ higher.

Hogs.—Receipts last week were 179,338, as compared with 176,104 the previous week, and 162,486 for the corresponding week in 1897. Offerings on Monday were 45,391, as compared with 40,517 the same day last week, an increase of 4,874 head. While receipts showed an increase, the demand was so urgent that values advanced a good 10 cents, and closed strong. Sales were at the following range: Packers and good mixed, \$4.25 to \$4.50; rough and common, \$4.40 to \$4.65; prime mediums, butcher weights, and shippers, \$4.55 to \$4.65; prime, closely assorted light, \$4.20 to \$4.40; light mixed, the syndicate sort, 120 up to 260 lbs, to round up at 140 to 150 lbs, sold at \$4.20 to \$4.25; pigs of 130 to 140 lbs sold at \$3.85 to \$4.20. There was no demand whatever for light, little pigs of 100 lbs average and under; light sales \$3.25. Up to and including Wednesday of this week receipts have been 137,503, as compared with 99,812 for the same days last week. The increase in receipts, which is general at all western points, as a consequence of the big advance in prices, caused a decline of 10¢ to 15¢ on Wednesday, and brought back values to about Monday's range. Sales were at the following figures: Prime common and rough, \$4.25 to \$4.30; prime packers and good mixed, \$4.50 to \$4.55; prime mediums, butcher weights and shippers, \$4.57 to \$4.60, a load or two at \$4.65; prime assorted light, \$4.15 to \$4.20; the syndicate mixed light, say 120 lbs up, to average 150 to 160 lbs, \$4.10 to \$4.12½. Light, little pigs are nearly unsalable, a few under 100 lbs average sold at \$3, and a few over 100 lbs at \$3.60.

Thursday estimated receipts were 33,000; market active and strong to 5¢ higher. Light, \$4.05 to \$4.40; mixed, \$4.20 to \$4.60; heavy, \$4.25 to \$4.70; rough, \$4.25 to \$4.30.

GOVERNMENT CROP REPORT FOR MAY.

The government crop report for May was issued on Tuesday last. It says that the May returns to the statistician of the department of agriculture show the acreage in winter wheat to be 5.7 per cent greater than the acreage last year, the comparison being not with the acreage harvested in 1897, but with that sown in the fall of 1896. While there is an increase of 28 per cent in Kansas, a more or less marked increase in every eastern and every southern state and some increase also on the Pacific coast, the large expansion thus indicated is to some extent offset by a decrease of 2 per cent in Indiana, 3 per cent in Ohio, 12 per cent in Iowa, 13 per cent in Missouri and 16 per cent in Illinois. The reduction in area in these last named states is due to the fact that the fall of 1896 was one of the finest seeding seasons ever known, whereas that of 1897 was one of the most unfavorable. The average condition of winter wheat is 86.5 against 80.2 on May 1 of last year. In the nine states with one million acres or upwards in this product

the average areas follow: Kansas, 105; Pennsylvania, 96; Michigan, 95; Tennessee, 95; each; Missouri, 88; Indiana, 87; Illinois, 86; Ohio, 82; and California, 26. Correspondents agree in reporting the crop of California to be one of the smallest ever raised in the state; on the other hand, the crop of Kansas bids fair to be the largest in its history. The average condition of winter rye is 94.5, as compared with 88 on May 1 of last year; the averages in the states of principal production are as follows: Kansas, 99; Pennsylvania, 97; New York and Michigan, 96 each; New Jersey, 95; Illinois, 89. With few exceptions the reports on the condition of winter rye are exceedingly favorable. The average condition of meadows is 92.9, against 93.4 on May 1 of last year in the fourteen principal hay-growing states; the averages are as follows: Nebraska, 102; New York, 97; Wisconsin, 96; Michigan, 95; Iowa and Kansas, each, 94; Pennsylvania and Indiana, each, 93; Minnesota, 92; Illinois and Missouri, each, 91; Ohio, 89; South Dakota, 84, and California, 58. The average condition of spring pasture is 91.2, against 93.4 at the corresponding date in 1897.

Among the more important averages are the following: Nebraska, 98; New York, 97; Indiana, 96; Wisconsin and Iowa, each, 94; Pennsylvania and Michigan, each, 92; Illinois, Minnesota and Kansas, each, 90; Ohio, 89, and Missouri, 85. The proportion of spring plowing usually done by May is 75.8 per cent of the whole amount. The proportion done this year by that date is 72.4, against 61.9 last year. Among the states in which plowing is unusually advanced are New York, Pennsylvania, Michigan, Iowa, Nebraska, Wisconsin, Minnesota and North Dakota. Among those in which it has been delayed by unfavorable weather are Ohio, Indiana, Illinois, Kansas, Missouri and South Dakota. In Kansas the proportion done up to May 1 was 12 per cent below the average. In Missouri it was 16 per cent and in Illinois 19 per cent.

Reports from various sections of this State say that the outlook for a good fruit year was never more promising. Berrien county claims to be practically sure of harvesting a heavier crop than ever before, and its growers are rapidly laying in supplies needed for shipping. A dispatch from Benton Harbor says that shipping crates and boxes are arriving by the carload.

J. H. Hale, of Connecticut, whose success as a fruit-grower has been phenomenal, and known of all men interested in the business, said in a recent address before a horticultural society: "I wonder how many of you practice thinning your fruit? An apple tree will nearly care for itself, but the man who wants good trees in the future will thin his fruit. If a tree bore 100 apples, I should remove 50. If the next year it bore 200, I should leave 100 to ripen, and the next, if it had 1,000, I should leave 600. This will get the tree into the habit of bearing. A peach tree that will set 1,000 peaches needs to have 600 or 700 thinned off. Thus you will get more bushels to the tree. The more you throw away, the more you will have, and you will practically get four dollars for one."

J. S. Bird, Goodrich, Mich., writes: "I am in receipt of the Farmer's account book. It is all I expected and every farmer should have one."

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Horticultural.

For The Michigan Farmer.

FRUIT NOTES.

So much has been said about strawberry growing that it seems as though the subject should be exhausted, yet every spring the interest in the fruit is renewed. There are not many who have a suitable plot of ground who do not determine to set out a strawberry bed, though when the time comes they neglect it or feel unequal to the task.

The method of growing is still a question for dispute. Some prefer hill culture, while others obtain best results from the matted row. We believe the soil and the variety are both of more importance in determining the system to be followed than they are usually credited with. For field culture the matted row is most in favor, as a larger yield can be obtained at a smaller expense for cultivating than by the hill system. But in the garden conditions are different. The small number raised there can be given better attention. The ground may be highly fertilized, if desired. It is an easy matter to cut off the runners and keep the vines in hills. If this is done the fruit should be large and of the best quality, and may perhaps be more satisfactory than the greater yield of the matted row.

If the garden soil is easily affected by dry weather we are in favor of the hill system, and believe that many of the failures which are blamed to other causes are really due to the runners, which are allowed to take root. Some plants throw out a large number of runners, and these draw heavily upon the parent, especially if the season is dry. Neither the old plant nor the young can be expected to come out of the season in very promising condition for the next year's crop. It seems frequently to be a matter of choice between clipping the runners and having one good plant, or letting them take root and having several poor ones.

Some choice varieties seem to require hill culture. They are not capable of growing both plants and berries. They are not in favor for field culture, as the rows they form are too thin, and the yield consequently small, but for the garden they may be among the best. With good cultivation they make up in size and other qualities what they lack in numbers.

But the plants may be healthy and the cultivation the best without yielding anything like adequate returns. It is a common complaint that plants which have come from a productive bed have been a disappointment. This is something that many of us have learned from sad experience. Some well-meaning friend gives us plants from a bed that has borne heavily one or two years, not knowing that because they have done so well is the best reason for supposing that they will not again. These plants were exhausted at the start, because they come from worn-out stock. Nothing could reasonably be expected from them. It is poor economy to use such plants. The importance of using good stock is insisted upon continually by fruit-growers, yet the failures show that the advice frequently falls upon deaf ears. Plants taken from a bed the first year after setting out are to be used if they can be obtained. Second-year plants, if the crop the year before was not heavy, may be used as a second choice, but our experience is that plants taken from a bed that has borne two crops are not worth standing room.

The subject of fertilization offers some conundrums to the amateur, and we find the most experienced are occasionally puzzled. How is it that a variety can be a good pollinizer and yet need the benefit of other blossoms for its own fruit? The Sharpless, for example, is considered a strong fertilizer, yet the green, sour tip to the fruit is a decided objection to the variety. When planted in hills alternating in the row with Wilson's Albany the fruit is red and luscious to the end. Here is a staminate which is benefited by being in close proximity to other staminates. Have strawberry plants affinities? If that is the case it is not enough to say that one variety has an imperfect and another a perfect flower, but we must find out what kinds agree best and plant them accordingly. This may assist to explain why a variety which succeeds with one man may be a failure with another. Certainly, if we can find a way to help us in growing such berries as the Sharpless

In their perfection it will be time well spent.

The strawberry is the most freakish of fruits, taken at its best. One needs a sandy soil, another does best on clay, and as for others, nobody seems to know what they want. There are hundreds of varieties which the introducers have lauded to the skies. They could safely do this by telling half the truth. It is a poor variety indeed that is not good for something somewhere, and more definite information may be left to be obtained by experience.

An examination recently of a peach orchard set two years ago was of considerable interest as showing the early bearing propensities of some varieties. The Crosby took the lead in regard to size of tree, and in the number of blossoms. The Rivers were much smaller trees, which prevented them from having as many blossoms as the Crosby, as both had all they could hold. Next came the Smock, with trees nearly as large as the Crosby and about half as many buds. The Foster, Elberta, Late Crawford, and Mountain Rose were even fairly well supplied with blossoms. The Early Crawford promised an occasional peach, while the Wheatland came in as unquestionably at the foot of the list.

It is unfortunate that a peach with the attractions of the Wheatland should be so shy a bearer. On the market it is unsurpassed, and the trees have proved hardy. In some localities it is ranked among the productive varieties, but these are the exception, so far as we have been able to learn. The general complaint is that the tree is a poor investment, though the fruit is the easiest of any to sell when it can be obtained.

The Crosby has been recommended as a "hustler" among peaches, but its growth has not been so vigorous as we were led to expect from reports and from the manner in which the trees started out the first season. They have been closely followed by the Late Crawford and the Smock. But the mass of blossoms is a surprise, though the tree has a reputation for setting much more fruit than is good for it.

Of the Crawford's nothing was expected so soon. They are usually shy bearers until they have acquired age, and they do not always bear then.

If there is any tree that ought to make a sure thing of fruit it is the Abundance plum. The blossoms are set thick enough for some kinds of berry bushes, instead of a tree. It is not to be wondered at that the fruit is not classed very high as to quality. That would be too much for one variety. Perhaps the curculio is a blessing in disguise for this tree, as has been suggested. Certainly it ought to ruin any tree to mature as much fruit as the Abundance can set. We have frequently noticed that the plum is liable to set more fruit than it should, but the Abundance beats anything we have seen yet.

F. D. W.

For The Michigan Farmer.

NOTES ON VEGETABLES AND FLOWERS.

In The Farmer of April 31st a writer thinks tomato rot is a disease. I do not think so. From my own observation it is not governed by soil, but is due to the season, coming always in a dry summer.

I would like to hear from some of the men at the College as to the cause and a remedy for wormy radishes. Every spring we hire help to pull our entire first sowing and draw to the waste heap. Ten years ago the same ground raised them in perfect condition. We try them on high and low ground, black ground and loam. Have used unleached ashes, tobacco dust and salt, nitrate of soda, and other fertilizers, but are not able to discover the cause. Can raise good ones on a piece of new cleared swamp that is moist sand. It would seem that some element was lacking in the soil, but that the second sowing, when the ground is warmer, is all right.

I notice that at every Farmers' Club or meeting some one brings up the beautifying of the homes, as if that was almost too much to ask for. There is no reason why farmers' wives and girls should not have flowers as well and as easily as those in town. When will they learn the beauty of bulbs and the little care they need to be a delight for a lifetime? Let annuals alone and

plant each fall a few, and in five years you will have a great many.

Don't cut up your lawns in beds. Keep the grass, and put somewhere against a fence or along a walk, crocuses, daffodils, tulips, Japan lilies, which are all cheap and multiply fast. Haycinths, that flower of the poets, cost more but their perfume is more than a recompense.

Plant a few each year, with your little children to help, putting out of sight with them the vexations and cares that come to all tired women, and with the same faith that you wait for the blossoms believe that the "desire of your heart" will blossom, too. In after years their beauty will be a memorial of a father or mother, or the little children who are going out to take their place in the world.

Have perpetual roses, too. Plant wisely and with only the work of top-dressing the soil and wrapping the bushes in winter there will be roses from May until snow lies on the ground.

Let something go undone of your household work for a day each spring, and fall and you may have flowers for the church, cemetery, sick room, your own home—all the places where weary humanity dwells.

Now is the best time to set your roses. Make a very rich spot and buy small plants, if you do not care to spend much. Keep them moist and growing all summer, and when freezing weather comes—not before—wrap their branches with straw or burlap. Next year you will have large bushes. The Queen and Kaiserin Augusta Victoria are quite hardy white roses. Hermosa and La France are lovely pink. Princess Bonnie, Meteor and lots of others are a deep red. These roses are tender, but with me live and do well, with no more than the care I have told about. Buy of a reliable firm and notice their directions.

A MARKET GARDENER.

ROT OF CABBAGE.

This disease has made serious inroads in different cabbage communities and is not well understood. According to Prof. H. L. Russell of the Wisconsin Experiment Station, it is a bacterial disease and begins to make its appearance on the edges of the leaves. Often the lower outer leaves are the first to succumb but quite frequently nearly all the leaves are affected about the same time. It works along the veins, finally reaching the main stem, where when once established it soon spreads throughout the whole plant. A great deal of loss is frequently caused when the cabbages are in store for the winter, although there were apparently no symptoms of rot at harvest time. All heads should be closely inspected and if the slightest black spot is found, the affected head should be thrown out. Such rejected heads are suitable for immediate consumption. In 1896 the loss from rot in Kenosha and Racine counties is estimated at 50 to 60 thousand dollars.

Being a bacterial disease, it is difficult to treat successfully. Rotation of crops is helpful in ridding ground of the specific organism. The removal of all old stumps and leaves assists in decreasing the disease. Care should be taken not to plant cabbage on low ground where the soil moisture will produce too luxuriant a growth. The trouble may be checked in the early stages by going through and removing all affected leaves, which are taken from the field. Do this regularly. The feasibility of this plan was demonstrated in 1897 experimentally and under commercial conditions. By looking at the cross section of a leaf the veins and midrib will appear as black spots if it is diseased. In addition to cabbage, the following crops are affected by it: Cauliflower, kohlrabi, kale, brussels sprouts, broccoli and collards, and to a lesser degree, turnips, rutabagas and winter radishes.

HORTICULTURAL NOTES.

A correspondent at Howell asks for a method of smoking squash and pumpkin seed so as to prevent gophers and chipmunks from eating them. We have never heard of a process which would do this, but some of our readers may know of one, and we would like them to give an answer to this inquiry.

The San Jose scale is doing some good as well as much evil. It is making fruit-growers more vigilant in watching their orchards, and it is disgusting the careless and slovenly fruit-grower, and will finally drive him to reform his methods or get out of the business. In either case the fruit industry will be benefited.

In packing fruit for market there are three things which should always be born in mind. They are neatness, uniformity and honesty. Perhaps the last named should be put first. Neatness should be observed in the packages as well as in the condition of the fruit. Uniformity should obtain in packages, and size and color of the fruit. Honesty should be observed in everything. It is not only the best business policy, but it is right and to be right is better for your conscience and reputation than to be rich.

The New York Experiment Station at Geneva publishes the results of tests with strawberries during 1897, from which it appears that one-year-old beds gave much better yields than did two-year-old beds, and also gave a larger percentage of early fruit. The best early varieties on the young beds were Beder Wood, Vera, Marshall, and Eleanor; the best late varieties on the one-year-old beds were Glen Mary, Beauty, Giant, Robinson, and Clarence; and on two-year-old beds, Robinson, Omega, Bissell, and Slaymaker No. 9.

A dispatch received last week from Berlin says that the German government admits, in official correspondence, that no San Jose scale has been found among the American fruit refuse examined. It was on the allegation that the scale did exist that the German government some time ago issued its prohibitory orders against American fruit and fruit refuse, etc. It is doubtful, however, if the prohibitory order is rescinded now that it is shown to have been issued without any good reason. The only method of securing justice for American products is to treat those imported into the United States just as Americans are treated in each foreign country. Let those nations make what regulations they please, but let them know that the same ones will surely be enforced upon their products. Prohibiting American apples should be followed by the prohibition of the importation of German wines and liquors.

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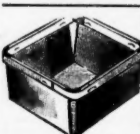
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The Poultry Yard.

For The Michigan Farmer.

THE PEKIN DUCK.

I do not think that there is any one who will take exception when I say that the Pekin stands undoubtedly at the head of the duck family. If we take into consideration the position which they hold in the estimation of practically all of the extensive duck raisers of the Eastern States, the indications are unmistakable that they have every qualification possible to incorporate in the make-up of any single breed. There are other breeds which many will admire more from a standpoint of beauty; take, for instance, the Rouen, with its intricate and inimitable feather marking, perhaps, the Cayuga with its deep, black-green sheen tinted plumage, or some equally attractively plumaged fowl. So far as my knowledge and observation extends, in the large broiler plants of the Eastern States, where young ducks are raised for the early markets, the Pekin is the one used without a single exception. Nothing could speak more forcibly of their value and the popularity they enjoy as a practical breed than this fact. There are few things that will test the merit of a breed, no matter whether it is fowl, sheep, hog or cow, than to have it reduced to a practical test which will bring out its stable qualities; when a thing meets all requirements in this direction, utterly regardless of what it may be from a fancier's point of view, it is destined to be popular. The Pekin duck has stood this test, and consequently stands at the head of a class of fowls, a position which it has deservedly earned. I do not say this to the detriment of any other breed of ducks. All have their particular points in which they excel. Doubtless there are other breeds of ducks which, had they been subjected to as severe grading and breeding towards some desired end, would have fulfilled the position amply as well as the Imperial Pekin does today.

When one takes into consideration the forces that have been brought to bear to make this breed what it is today, it can scarcely be wondered at that they are what they are at the present time. I do not think that I will unduly stretch the truth if I assume that there are certain strains in existence that have been in the course of formation for the past forty years. One has but to understand the vast amount of labor that can be exerted in this space of time, and then to realize the equally proportionate success that is sure to follow, if the effort has been exerted in the proper direction, to know to what its immense popularity is due.

Perhaps to more fully appreciate the almost phenomenal results that can be accomplished in forty years of careful breeding and selection, let us consider just for a moment how this space of time compares with like periods to accomplish similar results with other domestic animals. During the forty years devoted to the development of some strain, it would be possible to get at least a generation for every year. Under certain conditions where artificial hatching and forced feeding were introduced, it might be possible to get even more than this, but under ordinary conditions by simply following nature's laws, it would be no difficult task to produce forty generations in as many years. Assuming that the sheep and the cow would readily reproduce at the second and third years respectively, it would require at least eighty years for the former and one hundred and twenty years for the latter to attain the same relative degree of perfection that would be acquired in the fowl during a similar period of progress. But to go further, and carry this theoretical reasoning out a little more fully, the probabilities are that even in this comparison the duck would come out ahead in the points of perfection attained. This will be very plain to the reader if he will but take into consideration the make-up of the two species and the natural laws that govern each.

One of the most striking points of advantage that the fowl has over the other lies in the mode of reproduction. It is not improbable that a duck can produce at least fifty eggs per annum (I have in mind perfectly responsible breeders who claim as high as one hundred and fifty eggs from one duck

during a single year) and out of this number it is more than probable that at least twenty ducklings could be hatched and grown; but to make it all the more probable, we will suppose that only ten were raised. Out of this number there is a most excellent chance of finding at least one that will embody the qualities sought for. With cattle the case is radically different. Only one offspring is produced during a single year, and there is a strong possibility that it will embody something else rather than the desired qualities. It is not at all unreasonable to assume that not more than 50 per cent of increase will be in line with the desired improvement. It can be readily seen how much more rapid will be the advancement of the fowl over the cow for the same number of generations; it would be a question if during the same relative periods the former could not easily make at least a hundred per cent of proportionate increase over the latter.

The transformation and development of the Pekin is a most excellent example of what can be accomplished by man when he sets himself to intensify nature's laws, and turn them to his own financial betterment. Here is the same example of the intense application that has made the 2:00 pacer; the thirty-five pounds per week Jersey; and the heavy wool producers. All and many more representing every class, have been attained, not by chance breeding, but by that representing the most intensive kind. The Pekin enjoys no advantage that could not have been acquired by any other breed, save perhaps any quality that has been given by nature, such as the color of the plumage and skin.

In a recent issue of Farm-Poultry, Mr. James Rankin, one of the oldest duck raisers of New England, pronounces the Pekin to be the superior of all ducks for his purpose, that is a fowl that is hardy, matures quickly, puts on the most pounds in a given time and answers the purpose as the best for his business. He asserts that he has tried all varieties of the duck family and the Pekin has stood the test the best. He also says that he has attempted various crosses with but comparatively indifferent success. This is Mr. Rankin's idea of the different breeds as they compare with one another, stated briefly. Of course it will be understood that this breeder has in mind but a single object, viz., to produce the most practical fowl, one that is not only good in show room, but in the broiler plants as well.

In a recent issue of the Fanciers' Review, Mr. J. H. Davis, writing on the same subject, has this to say on the relative merits of the different breeds of ducks. A correspondent asks Mr. D.'s opinion of the Rouen and Pekin breeds, and this is his reply: "They are just as good. At least that is my experience. As for laying as many eggs as the Pekins, I cannot answer, as I have never experimented; but they lay a good supply for me. The Rouen is a good market fowl, and just as profitable as the Pekin to raise for that purpose. No, they are not as popular as the Pekin because they have not had such a free boom as the Pekin—poultry papers have not devoted whole pages gratuitously to Rouen farms as they have to Pekin duck farms. The Pekin has been, and is being, eternally boomed; and yet the Rouen is just as good a duck in every way, and a much handsomer fowl. You will make no mistake in trying the Rouen, which is the wild Mallard duck domesticated."

As is very evident from the two opinions expressed above, there is a difference of opinion even on the merits or demerits of the duck. Just as some favor one breed of domestic fowls and some one else favors something different, opinions differ on the various breeds of the duck family. If I were going to invest in ducks I would buy the Pekins, not that I am thoroughly convinced that they are the paragon among ducks, but because they are undoubtedly the most popular breed. If a person wants a fowl that will sell to the best advantage, especially is this true if one wishes to sell breeding stock, he must keep stock that has favor with public opinion. This is the main reason why I favor the Pekin in preference to others. In breeding stock of any kind, if one wishes the best degree of success for the least amount of labor, he must select a breed that occupies a popular position. It is possible, if one so desires, to take a breed and educate the public mind to it, as some few have done; but it is up-hill work. The far better way is to select something that is already popular.

There is one thing more that I wish to say in regard to Pekin ducks before I close this paper, and that is in regard to the "varieties." Don't be misled into thinking that there are several varieties of this family; there is only one—and that one is simply plain Pekin. There are no such things as "White" Pekins, "Black" Pekins, "Colored" Pekins, or "any other variety" of the Pekin family. The American Standard of Perfection recognizes simply the "Pekin Duck." Some persist in prefixing the appendage "white," which, while it is not entirely wrong, is certainly not correct. One notable instance of this kind is in the case of a certain editor and poultry "delineator" in Washington, D. C., who occasionally edits a government poultry bulletin; but since this gentleman is apparently not averse to using copying paper in the production of his "original" illustrations, it is quite probable that it is simply another misapplication, and that he is wrong. All pure-bred Pekins are a beautiful creamy white (not white), but not all "creamy-white" ducks are Pekins by any means.

C. P. REYNOLDS,
Shiawassee County, Mich.

For The Michigan Farmer.

A TWO-STORY POULTRY HOUSE.

I noticed in The Farmer, issue of March 12th, an inquiry for a two-story henhouse, by J. M. I have one that comes nearer to what he asks for than anything I have seen. It is off of one end of my cow barn, which is 22 feet wide, and constructed according to the following cuts:

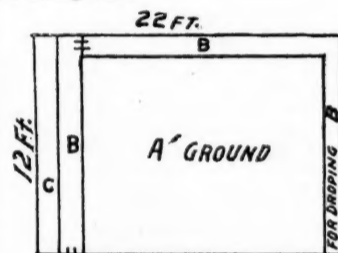


Fig. 1

AAA, floors, one above the other. BBBB, walks, lower ones two feet above ground floor. CC, stairs, with feed bin under. N, nests, with doors inside and outside, opening outside into a park for accommodation of sitting hens. F, feed trough, fowls feeding through partitions. PP, perches.

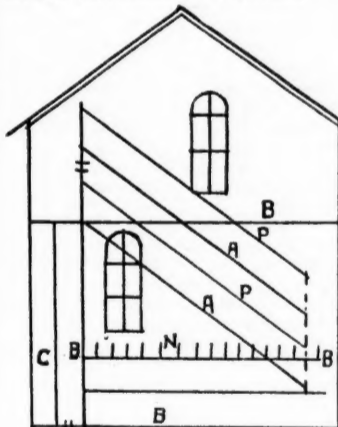


Fig. 2

The above plan and description will give a general idea of the construction of the building, which may be changed somewhat as desired. In regard to nests, feed troughs, etc., according to the number of fowls one wishes to keep.

I have about 175, and they require more nesting and feeding room than I have given in the plan above. It is lighted by large windows in south and west sides.

Goodrich, Mich.

A SUBSCRIBER.

For The Michigan Farmer.

MY EXPERIENCE WITH CORNISH INDIAN GAMES.

In The Michigan Farmer of May 7, I notice an article on the Cornish Indian Game, and I wish to give my experience with that breed, hoping it will bring out the experience of brother farmers on the subject. I wish to say that I make broilers and eggs a specialty, and am not a breeder of thoroughbreds.

A year ago last fall, having a flock of pullets showing a strong strain of the Plymouth Rock (though I suppose some of the fanciers would call them dunghills), I decided to cross them

with the C. I. Games. Accordingly, I secured a fine cockerel, also a fine pullet, thinking I might wish to raise a pen of pure Games if the cross proved as satisfactory as all poultry papers said it would. The pullet did not lay till April, while my Plymouth Rocks gave me eggs all winter. (I might say her weight was 6-14 lbs., and the cross is a heavy fowl.) The P. Rock pullets mated with Game cockerel brought black pullets, but my Game pullet mated with P. Rock cockerel produced a very pretty brown pullet—a perfect beauty. I decided to have my hens all of this type as soon as possible, as the cross, either brown or black, began to lay in the fall much before the P. Rocks. I found in November one of my June pullets sitting on nine eggs. They laid all winter and began to sit early; make good mothers—but, Oh! such tartars for stepmothers. I am sorry for the older chick that comes among her little family; he will want a poultice on the back of his head for forty-eight hours at least.

Hence, from my experience, the C. I. Games are not good layers. Crossed with the P. Rocks, they are. They are good sitters, good mothers, and if you should live in town, your neighbor's little chicks will not trouble you. But they are not fighters, having no more spurs than the P. Rocks.

I thought when I commenced I would tell about my 300 chicks, the youngest a week old at this writing—May 12—and all hatched without an incubator; but have taken too much space now.

D. P. V.

(Our correspondent is invited to come again and tell us all about those 300 chicks. It is a good many to hatch out with hens, but when once hatched they are nearly sure to do better than if hatched in an incubator.—Ed. Farmer.)

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* 8:30 pm	Lansing, Battle Creek & Chicago	* 7:05 am
* 9:00 pm	Grand Rapids, Grand Haven	* 7:05 am

*Daily except Sunday. *Daily. *Sunday only.

Grange Department.

Our Motto:—"The farmer is of more consequence than the farm, and should be first improved."

Address all correspondence for this department to
KENYON L. BUTTERFIELD,
AGRICULTURAL COLLEGE, MICH.

News from Michigan Granges is especially solicited.

THE NEXT LEGISLATURE.

The question of who shall comprise the membership of the next Michigan legislature is an important matter to the members of the Grange and to all farmers in the State. It is asserted that the recent Ohio legislature killed every bill championed by the farmers. In Massachusetts they have succeeded in withholding an appropriation for a cattle commission, although that appropriation was actively championed by the Grange. A proposition was made in the United States senate, and, we believe, carried, to cut out from the post office appropriation the item of \$300,000 for extending free rural mail delivery. The experiments on this line during the past year have been very successful, and it was simply justice to increase these facilities. The item was trivial, inasmuch as the amount carried by the bill was nearly \$100,000,000.

We do not think that in our own State matters are so bad as this. The last two legislatures have not turned a deaf ear to the wishes of the farmer, and, as a whole, we have little to complain of, especially in the lower branch, although nobody has claimed that the State senate is at present very close to the people.

But the question is nevertheless an important one, and it is none too early for farmers to be thinking about this business. Of course farmers are busy—so are the politicians. What is the use in having free government if we, as citizens, don't do our share in making it a popular government? What is the use of objecting to what the legislature does if we don't take part in sending men to the legislature who will do what we want them to? Although we are frank to say that we have little sympathy with that idea which makes the legislator simply a machine for registering the will of a large proportion of the people who live in the district he happens to represent. On the other hand, we have no sympathy with a legislator who deliberately votes against the wishes of his constituents, when those wishes are reasonable and correct. In other words, a legislator should not be expected to subscribe, before he is nominated or elected, to a dozen or fifteen things which he will vote for and a dozen or fifteen which he will not vote for. The right kind of a legislator will come to Lansing determined to do all he can for the people of his district, and the people of the State. Just so far as he possibly can he will vote as his constituents wish him to. In any case where more accurate information or thorough study shall convince him that it will be a wrong thing or a very unwise thing for him to vote for a proposition favored by the majority of his constituents, he will vote as he deems best, and be frank to tell his constituents why he did it.

The point in all this is that it makes less difference what promises you get out of a candidate for the legislature than it does what kind of a man you send. There are scores of men in the state legislatures who come up to Lansing without having given any particular pledge; they are honest, square men, determined to do their duty, and they do it very frequently with but little credit at home. If the

whole legislature were composed of this type of men we would have no trouble about the results. The problem is for each district to send up this kind of a man. The question before the farmers is to do all possible to bring this about. It doesn't mean that the legislature shall be composed entirely of farmers, but it does mean that they shall be fairly represented. It ought to mean that every legislator is sent here to legislate, in as brief a space as possible, for the best interests of the whole State, and not because he is the tool of some candidate for higher office.

It is true that the Grange can not nominate candidates nor discuss their merits, but it is also true that no member in the Grange is, by his membership, deprived of his political rights. It is further true that every Grange has the right to insist that honest and able men represent them in the legislature, and the Grange can, and should, do all in its power to bring about this result.

Patrons, what are you going to do about it?

GRANGE NEWS.

BEE HIVE GRANGE
failed to have a meeting simply because of lack of interest. Can any of the Granges give us any hints on how to work up an interest?

V. H. RANDALL.
HOPE GRANGE, NO. 678,
meets every two weeks with a very good turn out. Had a discussion on free and uniform text books and took the voice of the Grange. All are in favor of uniform books, but majority are against free text books.

MRS. A. RAMSAY.
Huron Co. ONSTED GRANGE, NO. 279,
May 7 conferred third and fourth degrees on four members. Many visitors from Walworth and North Rome Granges were present and good remarks were listened to by them. A bountiful repast was served.

LENAWEE Co. COR.
SILVER LAKE GRANGE, NO. 624,
met May 7th, with a fair attendance, and initiated one new member. We have initiated two new members and reinstated one. Taking everything into consideration we feel encouraged at our Grange outlook.

Grand Traverse Co. MRS. RUTH DAVIS.
ALUMNIA GRANGE, NO. 585,
May 4 and 5 Newaygo Co Pomona Grange met with us; a fair attendance. May 7, our regular meeting, two applications were read. No discussion. Have ordered a car load of plaster.

Will confer first and second degrees on three candidates at next meeting.

MUSKEGON Co. MRS. DELL VIETS.
COLDWATER GRANGE, NO. 137,
at its last meeting conferred third and fourth degrees on one candidate and expects to give the same to another at the next meeting. Painting and cleaning the hall is planned for the near future. The sisters can attend to the cleaning but our painter has gone at his country's call; therefore that is delayed.

Branch Co. COR.
STONY CREEK GRANGE, NO. 51,

was reorganized March 1, by Mrs. J. K. Campbell, with a number of the original charter members with us. W. I. Moore is our worthy master, and Hon. James L. Loudon is lecturer. The interest taken by the members is shown by their attendance, which is good. Hon. J. K. Campbell, of Fraternity Grange, has given us several good talks which we appreciate.

Washtenaw Co. MRS. WM. SIEGLE, Sec'y.
IRONTON GRANGE, NO. 707,
debated "Benefits of War and Peace," May 6th. The most of us were patriotic enough to believe war necessary, but that peace is preferable.

Our traveling library is still well patronized, and interest unabated in a social friendly way. There was a generous distribution of free seeds at our last meeting. We are enjoying our new seats and also new Bible stand, and secretary's desk.

CHARLEVOIX Co. HATTIE C. ALLEN.
ODDEN GRANGE, NO. 660,
is in a flourishing condition. Conferred first two degrees on 24 candidates. Have a membership of 98 and more to follow. Had an ice cream social—receipts, \$18.20. We shall have meetings every week for a while. Some members had been dropped for non-payment of dues but are coming back. Bro. W. S. Wating gave the unwritten

work and all the first and second degree work without the aid of the book. He is well posted on Grange work.

LENAWEE Co. J. W. SELL, Cor.
ASHLAND GRANGE, NO. 545,

May 7, had a good attendance; a few visitors present. Had a paper on, "What have been the two most potent factors in the development of the country?" by Sister Nellie Wheat. Also a paper on "Probable Defects of the Uniform Text Book Law," upon which we shall be called to vote at our next meeting, by Brother Charles King. The subject was well discussed. A report was given of the Pomona Grange held at Holton, May 4-5.

Newaygo Co. MINNIE A. BRINK.

CLAYTON GRANGE, NO. 694,
May 7 held the first meeting of our eighth year as a Grange. Had good attendance; instructed two in third and fourth degrees, and had a feast. Had a program, consisting of instrumental music, singing, dialogues, etc.

During the seven years we have not lost a single member by death. Organized in a school house with 22 members, moved from there into a carriage barn, are now in a home of our own, with a stove in the hall, and have sixty members in good standing. We are represented in two counties and six townships.

Genesee Co. GEO. W. BLOSS.

FRUIT RIDGE GRANGE, NO. 276,
rendered a very pleasing program at its last meeting. First came current events, to which a goodly number responded, telling of local incidents and of the brilliant victory of Commodore Dewey.

The question discussed was "How Far Should Parliamentary Law Be Carried in the Grange?" It was generally thought that it should not be strictly enforced, especially moving the previous question should not be enforced to that degree to become a "gag law," thereby closing debate on a question that any member desires to talk on.

Lenawee Co. J. W. A.
ENCOURAGING NEWS.

I want to tell you about Williamsburg Grange No. 649. It has been dormant for fifteen years and has just been reorganized by Bro. Lowell Sours and myself. We have 8 or 10 old members and enough new ones to make 39 and expect several more at the next meeting, which will be held on Wednesday evening of this week (May 11), when the organization will be completed.

Fife Lake Grange, organized last January, is doing finely. The Grange is growing in interest in this county perhaps faster than ever before.

Traverse City. E. O. LADD.
UNION GRANGE, NO. 97,

held a very interesting meeting May 3rd. The presence of a number of the younger members added the jolly time at recess, so much appreciated by the older folk. Little Lynn Pippett gave a charming recitation entitled "The Little Cock Sparrow."

Worthy Master D. D. Buell presented the subject of "Parliamentary law—its origin and use." This subject will be treated in a practical manner at each succeeding meeting.

Sister Estella Buell read a selection, the theme being "Success." Brother Claude Studley was somewhat surprised when the lecturer called upon him for a declamation, but kindly responded by giving a part of the prologue to Chaucer's Canterbury Tales.

Several of the recent meetings have been so filled with degree work that there was very little of interest to report excepting the bounteous supper served to four new Grangers.

Branch Co. F. ELLA KILBOURNE.

ROLLIN GRANGE, NO. 383,
meets once in two weeks at the town hall. Our meetings are held on Saturday nights, therefore, cannot get word to the next Farmer. At our next to the last meeting discussed the question, "Other things being equal, which will do the best work in the corn field, the riding or walking cultivator?" It was decided in favor of the riding cultivator. Also the question of how to raise a good crop of potatoes. Some said the best potatoes they had ever raised were those covered with straw; others had not met with as good success; the season has a good deal to do with it.

We are talking a good deal in our meetings of a hall of our own, which we would like to build, and are trying in various ways to raise the money or a part of it, first. At one of our meetings it was decided to have an album quilt with the names of the officers of the National Grange and our State and county. Also the officers in the Subordinate Granges of our county. A

committee was appointed to write or see the same, and they have written to nearly all of the National and State officers, and quite a number have responded with words of cheer and encouragement. Also sent ten cents with each name. Some have sent more than ten cents, which has been thankfully received.

Lenawee Co. C. TINGLEY, Cor.
COURTLAND GRANGE, NO. 563,

April 9 Union Grange was held at Courtland Grange. The hall was full. An essay was read by Bro. Robert Sowerby on the "Culture of the Sugar Beet." The brothers talked upon the subject; some had tried to raise them but had a failure. A brother suggested that it would be a good plan to experiment on a small scale, to find what land was best adapted to the culture of the beet.

The building of a factory was talked about, but there was nothing definite decided on the subject, only that it would take a large amount of money to build one.

Apr. 16 "The Uniformity of School Text Books" was discussed. Some thought it best to have books alike in all schools. Others said they are all right as they are now; that when they wanted new ones, would be the time to change them. I think uniformity is the better plan.

April 30 three candidates were instructed in the third and fourth degrees. The question whether agriculture is the basis of the country's wealth, was debated by some of the brothers. Some thought that agriculture is the basis, and others said there had been a time when tilling the soil was looked upon as inferior to other occupations, and was not the main source of wealth. I think that farming has progressed until it has become the main source of wealth.

Kent Co. MRS. N. A. BURCH.

FARM STATISTICS—WHY COLLECTED.

We asked Bro. Robt. L. Hewitt, Chief of the Agricultural Division of the Secretary of State's office, at Lansing, for a statement of the purposes and results of our Michigan system of collecting farm statistics. In response he sends copy of a circular recently sent out by the Secretary of State, which he says states the matter according to his views. We reprint the greater portion of the circular:

First, the farm statistics are intended to furnish and do furnish a ready and convenient statistical record of the leading agricultural productions of the State. They are similar to reports furnished for a like purpose by a number of other great agricultural states. The reports in some of the states embrace most, if not all the different agricultural products, including fruit and market garden products.

The farm statistics of Michigan have now been published for nineteen consecutive years. The nineteen volumes constitute an immensely valuable historical record of the agriculture of the State that is obtainable nowhere else. This record is used by dealers who purchase farm produce in this State, by capitalists seeking locations for manufacturing establishments, by persons contemplating purchasing homes, and lately by interested parties looking out routes for electric roads. When it is proposed to repeal the law for the collection and publication of the Farm Statistics, one of the questions to be answered is: Will it be wise now to discontinue the reports, break off this record, and thus strike out this factor in the development of the State's resources?

But it has been asserted that the National and State censuses furnish the agricultural history of the State. The fact is the censuses furnish a record for two years, and only two, out of each ten years. The United States takes a census every ten years, and a State census is taken four years after each National census. The National census is never completed and distributed until several years after the enumeration, and very few copies are ever distributed in this State. The great mass of the people never see this census and cannot get it. The State census can be compiled ready for distribution in about two years after collection. Without the farm statistics, then, there would be no agricultural statistics available except for two out of each ten years, and the reports of these years would be available only

long after taken. When it is proposed to discontinue the farm statistics for the reason just stated this question is always pertinent: Is it wise for the people of the great agricultural State of Michigan to deprive themselves of all statistics of agriculture except for two years out of each ten, especially when the publication of the statistics for those years is so long delayed after collection?

Second, the farm statistics are collected and published as a necessary foundation of the crop reporting system of the State, a system that has been established and is now maintained for the sole benefit of producers and consumers. The dealers can get crop statistics for their own use—they can take care of themselves, while farmers can secure such statistics for themselves only through the medium of the State and National crop reports.

It has been argued that the farm statistics are not necessary because the monthly crop reports published by the State and National governments furnish all the information needed in regard to crop yields. Those who thus reason do not seem to understand that every estimate of total yield published in a monthly crop report is based on some previous actual enumeration, and that without such enumeration for a basis, it would be out of the question to make estimates of yield in which any one would place confidence. The estimates in the Michigan crop report are all based on the totals in the annual farm statistics, and the estimates published in the National crop reports are all based on the totals in the National census taken once in ten years.

It is not difficult to make a fairly satisfactory showing of crop conditions at any time during the crop growing season, and the average yield per acre can be estimated with close accuracy at the time of harvesting or threshing, but great difficulty is always experienced in estimating the aggregate product of a crop after the harvest, or at the close of the season. Any farmer can easily find the yield per acre of his own and neighbors' crops, and a few such reports from a township will determine with sufficient accuracy the average yield in the township. But who can estimate the acreage for an entire township? No one will deny that the acreage must be somehow ascertained if we would find the aggregate product.

Now here is just where the farm statistics are of incalculable value. The farm statistics furnish the acreage as well as the yield of the several crops, and it is upon these figures, obtained by actual enumeration every year, that all advance estimates of the next succeeding crop are based.

A study of the State and National crop reports cannot fail to convince any reasonable person that the estimates of final output of the Michigan wheat crop made by this department are much more accurate than those made by the agricultural department at Washington. The reason is, the Michigan reports are corrected each year by the farm statistics, whereas the department at Washington can correct its estimates only once in ten years when the National census is taken.

The statistician of the United States Department of Agriculture in a late report has the following concerning the methods of that Department:

"In the main the Department's method is one of comparative percentages; with the figures of the decennial census as the starting point. In the interval between two censuses, therefore, a cumulative error of only 2 per cent per annum would amount to one-fifth of the total production. A cumulative error of 5 per cent per annum would produce the same result in four years."

The "cumulative error" of which the statistician speaks, cannot occur when the enumeration or census which is the basis of the estimates is taken annually. Comparisons of estimates made by the two departments prove conclusively the greater value of the estimates based on an annual enumeration; they prove, in fact, that the annual enumeration or census is absolutely indispensable if we would have approximately correct estimates. Here are some comparisons:

Beginning with 1893 the National department estimated the wheat crop of Michigan for that year 4,511,000 bushels less, while the State report showed only 742,000 bushels less, than reported in the farm statistics.

In 1894 the National department estimated the crop at 1,216,000 bushels less, and this department at 179,000

more, than reported in the farm statistics.

In 1895 the National department estimated the crop at 1,633,000 bushels less, and this department at 118,000 bushels less, than reported in the farm statistics.

In 1896 the National department estimated the crop at 2,142,000 bushels less, and this department at 752,000 bushels less, than reported in the farm statistics. The crop of 1897 will be reported in the farm statistics this spring (1898) and the total known in July. The National department estimates the crop at 1,225,000 bushels less than estimated by this department.

In the four years 1893, 1894, 1895 and 1896 the National department underestimated the wheat crop of this State 9,533,800 bushels, while the estimates made by this department for the same years were only 1,433,000 too small. The aggregate deficiencies in the National estimates amounted to nearly one-ninth of the total of the four crops, while the State estimates were deficient by only about one fifty-sixth of the total.

Surely with the above comparison before him no one can consistently claim that a census taken once in ten years furnishes a sufficient basis for annual crop estimates, nor can any one consistently deny that an annual enumeration or census like the farm statistics of Michigan does furnish such a basis.

It should be added that the State estimate of each year's wheat crop is made in October, or about three months after the harvest, while the estimates for the National reports are never made before December and sometimes not until January or February, or from six to eight months after the harvest.

This subject could be much further enlarged upon, but a little careful thought will readily disclose to you the practical use that the individual farmer, as well as the State, may make of these statistics.

We would be pleased to have you write us your views after you have given the subject careful study.

Very respectfully,
WASHINGTON GARDNER,
Secretary of State.

THE IDEAL HUSBAND.

(Portion of paper prepared and read at Grand Traverse Pomona Grange, held at Old Mission, by Mrs. E. O. Ladd, Traverse City, Mich.)

It has been said that a woman ought not to expect too much, nor too exalted goodness in a husband or he would not be understood by her, as she is not an angel.

Talmage says, "Do not expect to find a perfect husband. If you find a man without any faults, incapable of mistakes, never having guessed wrongly, his patience never having been perturbed, immaculate in speech, in temper, in habits, do not marry him. Why? Because, what would you do with a perfect man? You who are not perfect yourself, and how dare you hitch your imperfections fast on such supernatural excellence? Do not, therefore, look for an immaculate husband, for you will not find him."

But, an intellectual man, a man with more or less superior mental attributes; such a man joined to a woman by marriage, is not so hard to find.

Now, as to what we think his other qualifications should be. First, he should possess a heart! A great tender, noble heart. He should be well-mannered, though not a dandy; kind, sympathetic, courageous, and persevering; industrious and of frugal mind; economical, but not stingy; acquiring, yet not avaricious. He may, or may not be possessed of much money, houses or lands. Yet, if he have these qualities combined with a Christian's faith, he is a fortune in himself. He is a true man, one in whom a wife can place her utmost confidence and trust; an honest man, of whom it has been truly said, "An honest man is the noblest work of God."

GRANGE WORK.

When we create interest enough in an individual so that he will allow his name to be presented for membership in a Grange, he then is desirous of gaining all there is in it for him. His first knowledge is given by his initiation and the presentation of the principles of the order by the officers in charge of that work. Take for instance the first teaching, "A good Patron puts his trust in God." When that principle is presented by a Master who in his every action lives up to

that thought, he then shows the beauty of the principle. But if those having that work in charge do not believe, then it has only the effect of empty, meaningless words, and becomes disgusting and repulsive to the applicant.

How many, many times applicants are instructed in the principles of the order, and after they have been the entire course they could not tell one principle upon which the Grange is founded. The writer has had the pleasure in his life of witnessing similar ceremonies which were perfectly grand, because the one having the work in charge put his whole soul into it. We can never expect to create an interest in others when we lack that ourselves.

After a person has been instructed in the noble principles upon which the Grange is founded, there comes a desire (perhaps unconsciously) to help in promoting the interest and advancing the cause. At this time work should be given showing that his work is needed, always guarding against lowering the standard, but insisting on an advancement and constantly adding something to their store of knowledge.

We have watched pupils studying and working that they might understand the four fundamental principles of arithmetic, and in a short time the same ones were solving the more difficult problems of algebra, showing a growth in ability to understand. So we should grow in our work; we should be able to grasp better ideas; have more noble thoughts and ideas each day we live. When that point is reached we place ourselves in a position where we can help others to rise.

St. Louis, Gratiot Co. NEWTON BURNS.

WHY THE DEFICIT IN U. S. POST-OFFICE?

The following is an extract from a speech made in the House of Representatives by Hon. S. W. Smith, of Michigan. It simply states facts well known to those who have investigated, and shows the hollowness of the excuse so often given as a reason why we can't have free rural mail delivery, i. e., "We are already losing money in the postoffice department."

"I assert: First. That the government is paying too much for the carriage of the mails.

"Second. That it pays for a large amount of mail that it does not carry.

"Third. That the railroads have in the past set up a mail service of their own, which defrauded the government. Are they doing it now?

"Fourth. That in addition to the price paid for the carriage of the mails it is paying too high a rental for postal cars.

TRIALS OF SALESWOMEN.

Mrs. Pinkham Says Standing Still is One of Woman's Most Trying Tasks.

Have you ever thought why it is that so many women or girls rather walk for an hour than stand still for ten minutes?

It is because most women suffer from some derangement of their delicate organism, the discomfort from which is less trying when they are in motion than when standing.

So serious are these troubles and so dangerous to health that the laws in some states compel employers to provide resting places for their female employees.

But no amount of law can regulate the hard tasks of these women. Customers are exacting, and expect the saleslady to be always cheerful

and pleasant. How can a girl be cheerful when her back is

sailed by lassitude and bearing-ter how sweet tempered she is way under the pain after a while.

want cross and snappy saleswo

important capital, and no one can be

If you are ill or suffering, write

Lynn, Mass., and tell her all about yourself. Your story will not be new to

her; she has heard it many thousand times and will know just what you need.

Without doubt, Lydia E. Pinkham's Vegetable Compound will help you, it has

done such wonderful things for suffering women. Do not hesitate to write her

all the little things that make you feel miserable. Your letter will not be seen

by any man, and Mrs. Pinkham's advice will cost you nothing.

Read this letter from Mrs. MARGARET ANDERSON, 463 Lisbon St., Lewiston, Me.

"DEAR MRS. PINKHAM:—For years I had suffered with painful menstruation

every month. At the beginning of menstruation it was impossible for me to

stand up for more than five minutes, I felt so miserable. One day a little book of

Mrs. Pinkham's was thrown into my house, and I sat right down and

read it. I then got some of Lydia E. Pinkham's Vegetable Compound and

Liver Pills.

"I can heartily say that to-day I feel like a new woman; my monthly

suffering is a thing of the past. I shall always praise the Vegetable Compound

for what it has done for me."

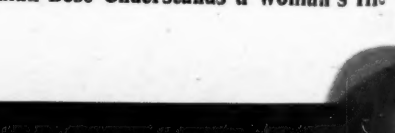
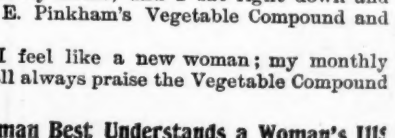
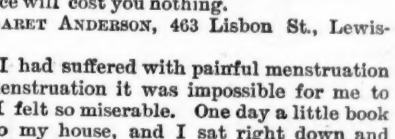
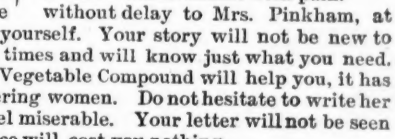
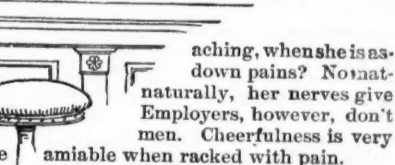
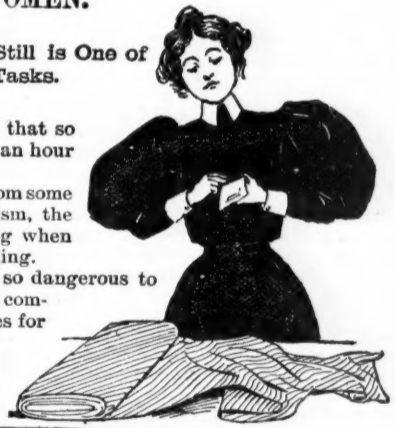
Ask Mrs. Pinkham's Advice—A Woman Best Understands a Woman's Ills!

"1. Postmasters-General Bissell and Wilson, in their reports for 1894, at page 33, and in 1895, at page 33, show that the average price for carrying mail was 8 cents a pound. The report of the postmaster-general for 1889, at page 90 and succeeding pages, shows that the average distance of carrying the postal matter was 448 miles; this, in other words, is \$160 per ton for carrying the mails 448 miles. We are paying as much per pound to-day for carrying the mails upon the railroads in this country as was paid in 1878, notwithstanding there has been a reduction in freight rates since that time of more than 30 per cent and a reduction of passenger rates of between 15 and 20 per cent.

"The railroad companies carry merchandise for a cent a pound, and in some instances for a still smaller amount. The Texas Pacific and Southern Pacific railroads carry hardware, caps, boots, and other merchandise from New Orleans to San Francisco for eight-tenths of a cent per pound, a distance of 1,500 miles, or three and a half times the distance for which the government pays the railroads 8 cents a pound. The distance from Boston to New York is about 250 miles; the Adams Express Company carries a hundred pounds for a cent a pound, and they carry the same amount a distance of between five and six hundred miles, from Cleveland to New York, for a cent and three-quarters a pound, and no doubt the United States Express and the National Express companies carry for a like or cheaper rate, and an inspection of the daily quotations of these stocks show that the companies are not losing money.

"I insist, sir, that the government is paying too large a price for carrying the mails when we remember that in the last twenty years the cost of carrying the mail has been reduced nearly one-half; yet upon the part of the government there has been practically no effort made to secure any reduction whatever. Such is the enormous profit to the railroad companies that Senator Pettigrew said in the Senate during the last year that, 'The New York Central Railroad between New York and Buffalo receives from the government of the United States compensation sufficient to pay the interest on the cost of a double-track railroad every year.'

"It is an undeniable fact that if we paid only what the service is worth for railroad transportation the mails of the country could be carried at a profit to the government. In my judgment, if this reform alone were enacted, it would wipe out the oft-repeated deficiency in postal revenues."



Veterinary Department.

CONDUCTED BY DR. W. C. FAIR.

Advice through this department is free to our subscribers. Each communication should state history and synopsis of the case fully; also name and address of the writer. The initials will only be given. When an answer is requested by mail it becomes private practice and a fee of one dollar must accompany the letter.

Splint.—Eight-year-old horse has splint on fore leg. Does not cause lameness.—A. B., Bay City, Mich.—Leave it alone. You might cause him to go lame from treatment.

Wart on leg.—Mare has a wart on leg. I employed a veterinary surgeon to cut it off. He did so, but it failed to effect a cure.—E. J. S., Ovid, Mich.—Remove it with a knife and apply one part chromic acid to two parts water three times a week. Your veterinary failed to remove the wart entirely.

Ringbone.—Have a young horse that is lame. He has a bunch on right fore foot just above hoof. It is hard as bone.—W. C. M., Hillsdale, Mich.—Your horse has a ringbone. Blister with caustic balsam once a week. Give him rest until he recovers from his lameness. Should blisters fall have him fired.

Spasmodic Colic.—A four-year-old horse rolls and tumbles occasionally. I think he has colic. I give him salt and water when sick and he seems to get over it.—W. B., Monroe, Mich.—Careful feeding will do more towards preventing such sick spells than treatment. Give him ginger in feed. A run to grass will improve his digestion and he may not have any more attacks.

Stocking.—I have a mare that interfered in the winter on hind ankle and caught cold in it. It swelled badly, but healed quickly. Since then it swells every night or when she stands still a day. It rubs down easily and works away entirely by driving an hour.—O. M. T., Millington, Mich.—Give two drams nitrate potash, one dram powdered rosin in feed three times a day. Regular exercise and a run to grass will do her lots of good.

Garget.—I have a cow that was all right in the morning when I milked her, at night one-quarter of her udder was swelled badly and gave thick and dark-colored milk. She has almost dried up, going down from eight quarts to a very small quantity.—F. H. D., New Boston, Mich.—Give one pound epsom salts twice a day until her bowels act freely. Foment udder with hot water three times a day and feed her grass but no grain.

Navicular Disease.—Horse went lame early last winter while drawing load of wood to town. Stopped on top of hill; was all right until then; when told to go he could not step right hind foot to the ground. After about half an hour he started off, but limped some. After unloading the wood he walked home (about six miles) quite well, but could not trot. After two or three days was all right. Saw no more of it until about two weeks ago, when he was taken again in just about the same way. After two or three days was apparently all right. Yesterday was taken again while going to the field to plow. He throws leg a little forward, stands on point of toe with ankle cocked forward. Cannot locate the trouble. No soreness or swelling, but cannot step on foot. Have done nothing for it.—E. C. H., Hastings, Mich.—Blister coronet with caustic balsam once a week. Give him rest.

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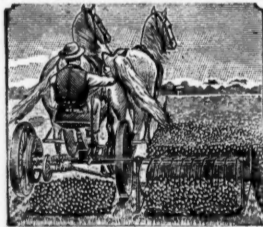
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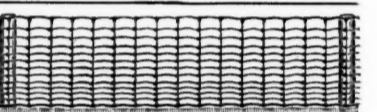
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